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☞ The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

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Saturday, July 9, 1853.

Wills' Valley Railroad.

A project is engaging the attention of the people of Northern Alabama, called the Wills' Valley railroad, which is one of the more important works in the Southern States, though its object and direction is not very well expressed by its title. Its design is to carry forward the Alabama and Tennessee railroad, The Great Western line extending from the extreme north-east through Central and Western Virginia, and Eastern Tennessee to Chattanooga, the Wills' Valley road will prolong this great line in the direction of the Gulf, and as it unites with the Alabama and Tennessee road at or near Gadden, on the Coosa River, it will complete the great chain of railroad above described to the navigable waters of the Alabama River, through this, with the Gulf of Mexico, which will be its ultimate terminus.

The proposed road will leave the Nashville and Chattanoog a road at a point 9½ miles distant from Chattanooga. Soon after leaving this road, it strikes into the Valley of Wills' Creek, which pursues a very direct course, a little south of east to its junction with Coosa, the leading tributary of the Alabama. The entire length of the road as surveyed will be 82¼ miles. The road is a very favorable one, the estimated cost of graduation being only $3393, per milethe iron is estimated at $463,836, and that of the whole road, with a small equipment, 1,094,212. The route has been carefully surveyed and active measures are in progress to raise the necessary means for its construction, which will doubtless be successfull The road is too important not to command the necessary aid abroad should such aid become necessary. It is an indispensible work in the great line all portions of which with the exception of the above, have been for some trme past in active progress. It will prove a very important ally to the Alabama and Tennessee road, in securing to it a new connection with the Tennessee River, and with the roads concentrating at Chattanooga by the shortest practicable route.

We copy the following from the late report of the Chief Engineer of the road James H. Oliver, Esq., showing its *geographical* position.

The above road is most happily situated, being a link in the continuous chain of railroads, leading direct from Boston by way of New York City, Philadelphia, Baltimore, Washington. Lynchburg, Abingdon, Knoville and Chattanooga, (all of which are finished or under vigorous construction.) Hence by way of Wills' Valley Cahawba Valley, Selma, and from thence to Mobile and New Orleans. At present there is a connection from Selma to Mobile and New Orleans by steam boats, which will soon be replaced by railroads, the Wills' Valley Road completing the connection to Selma.

The entire route passing through the points above named, differs very little from an air line, thus forever avoiding the possibility of competition, this added to to the fact, that it traverses every para llel of latitude, and necessarily the channel through which must pass a constant interchange of commodities, for on the same parallel of latitude there can be no interchange of trade, the productions being of a similar character, but when a road passes directly through every paralel of latitude connecting all of the most important commercial points, as is the case with your road, it must necessarily be a great thoroughfare of trade and travel, and can be viewed in no other light than a great national enterprise involving in itself future considerations of no unimportant character, when this government may be necessitated to resist the encroachments of another foreign power, and add another victory of New Orleans to the annals of its history.

The Wills' ValleyRailroad is therefore a link in the great chain of railways which posesses every requisite necessary to make the most perfect system of railways which ever could have been devised, recapitulated as follows:

1st, Traversing every parallel of latitude, and of necessity involving a continual interchange of commodities as well as an extensive travel.

2d, Running direct, and therefore the shortest possible route, forever avoiding the possibility of competition.

3d, Connecting all of the most important commercial points in every parallel of latitude, viz: Boston, New York City, Philadelphia and Baltimore, with Mobile and New Orleans and other important Southern cities.

4th, Cheapness of first cost and of the subsequent repairs, owing to its light grading, and having few bridges of any character. And we might add its natural advantages as a post route, and its influence on our military operations, should an occasion ever present itself, and which probably may occur at some future period.

By a mere glance at the map of the U. States the most casual observer will at once see the correctness of the foregoing statement without entering into a precise estimate of the comparative distances of various routes between the important commercial points before referred to, it is enough to say, that as a straight line is the shortest possible distance between two points, so certain is your road a link in the shortest line of communication between those great commercial cities.

It is worthy of remark in connection with the geographical position of your road, that it forms a part of the identical route recommended about 18 years ago, under a resolution from congress to report on the shortest and best route from Washington city to New Orleans, and which has lately been brought into notice by some of the leading Journals of New Orleans.

I have presented your claims for the Wills' Valley Railroad as to its geographical position and I challenge the projection of a road which when completed can interest so vitally as many great commercial cities, and at the same time possess every other qualification to render it a link in the most perfect system of railroads. It will be seen that by this road it is one hundred and ninety miles nearer from New Orleans to Washington than by the New Orleans and Nashville road, and it will be further seen that the distance from Mobile

to Washington by this road, is shorter by several hundred miles than by the Montgomery route. We invite a close examination of the map in connection with this subject, and by tracing a line through those important points, it will be seen that in point of directness it very nearly approximates an air line, which will discourage all thoughts of competition.

From the preceding statements which are apparent from a glance at the map, it will only be necessary to call the attention of the various cities and railroad companies to the interest which they have in the completion of the Wills' Valley railroad to secure their most hearty cooperation.

We learn that the construction of this road is to be commenced at once. It is a work which will be regarded as indispensible, so soon as the Alabama and Tennessee road shall be completed. In addition to a very large prospective *through* business it will traverse an exeellent section of southern country capable of yielding a lucrative local business. It will be likely to be viewed with favor by capitalists, and we have no doubt its securities will find a ready sale, so soon as a sufficient amount shall be subscribed and expended to render their safety unquestioned.

Plate Driving Wheels.

The application of the spoke form to wooden wheels was a necessity of the material, for if we reject the primitive wooden roller, there is perhaps no other form which would answer any tolerable conditions of strength and lightness. The preservation of this form in railway wheels, where made of cast iron, was made from the fact that a no more suitable form had occurred to engineers. But the practical talent of our railroad machinists suggested the plate and the double plate forms as best adapted to the material and the service imposed upon it. Bush & Lobdell long ago commenced the manufacture of plate wheels, and a large number of foundries in other parts of the country are now applying the same principle of form under different modifications. The advantages of the plate form as compared with the spoke form will be shown in this article to be partly in strength, and in a minimum of atmospheric resistance. The plate form secures also a much more uniform chill, as the same thickness of metal is poured around the entire circumference, so that cooling goes on uniformly after pouring the metal. This difficulty of an uneven chill of the spoke wheel has led to putting an extra amount of iron in the rims, so as to equalize the cooling, and also to cool nearly in the same time as the hub, so as to avoid straining the rim. The spoke wheel is also much more difficult to be kept clean, from the combined disadvantages of its form, both of creating more flying dust and retaining it between the spokes. It fans the track, and holds half the dust it creates. In March, 1843, some experiments were made at the Boston and Worcester railroad shops, to test the comparative strength of the plate wheel and of the different spoke wheels. Many founders, machinists and railroad men were present. The test consisted in raising an iron axle, weighing 131 lbs., to different heights and striking the wheel fair on the tread. The following shows the resistance of Bush and Lobdell's plate wheel, 33 inches diameter, weighing 496 lbs., and of the strongest spoke wheel tried, which was that of the South Boston Iron Co's. Their 33 inch spoke wheel weighed 523 lbs.; and from its weight of 27 lbs. more than one of the same diameter and form, cast by Ross Winans, their wheel stood a slightly heavier blow than Winan's. The spoke wheels from these two makers stood the most severe tests of any others tested.

Plate Wheel, 33 inches diameter, 496 lbs.

Received nine blows at ten feet high each without any effect.

Strongest Spoke Wheel, 33 inches diameter, 523 lbs.

1st blow at six feet high, between spokes, cracked the rim.

2nd blow at six feet, over spoke, no effect.

3rd blow, at ten feet, over spoke, cracked the rim.

4th blow, at seven feet, between spokes, no effect.

5th blow, at eight feet, between spokes, broke the wheel.

As we have said this test of the spoke wheel was the most severe of any applied to any other before breaking, there being eleven spoke wheels tried, it is easy to perceive the extraordinary amount of strength afforded by the double plate form.

Upon the resistance of plate wheels to the air, the *Railroad Journal* of August 4, 1849, page 485, contains an account of some experiments made with wheels in England for the purpose of ascertaining this resistance.

A wheel of the plate form, 3 feet in diameter, was secured upon v shaft, revolving in bearings, and placed over the mouth of an old mine pit of 279 feet deep. Upon a drum of 27½ inches diameter, forming a part of the axle, a rope was coiled, and a weight, of 56 lbs., attached so that on reaching the bottom of the pit it should detach the rope from the drum. After the weight had descended and the rope was detached, the wheel made 172 revolutions. The revolutions of two spoke wheels tested under precisely the same circumstances, were respectively 116 and 126. The spoke wheel revolved 46 seconds after the rope was detached, the disc wheel 53 seconds; showing a less resistance of the plate wheel of 15 per cent. But as these experiments were made upon a stationary axle, and as the speed of the spokes is different upon a wheel *rolling* the same rate and number of revolutions upon a track, the outer ends of the spokes moving 1¼ and the inner ends 8 times faster, and as the resistance increases as the square of the velocity, so it was considered true after finding the velocities upon a diagram for each point in the spoke, and of each point of the revolution, that the average of the squares of the speed were three times greater in the case of a rolling wheel, than with a wheel revolving upon a stationary axle, so that the comparative excess of resistance of the spoke wheel would be 50 per cent. greater than with the plate wheel.

It is from these and other practical considerations that the double plate form appears the best adapted for engine drivers. The greater strength of a crank hub cast within a plate driver and the ready means for the insertion of counterbalances by casting the required amount of metal at any point, indicate the plate form as the best every way. The open spoke driver shows the coarsest and least clean of any parts of the engine. After the eye has become accustomed to the plate wheel it will be regarded as the most elegant and appropriate of any which can be applied.

Some makers of chilled wheels already make plate drivers with chilled rims, but the main thing wanted is a center to which a wrought or a chilled tire can be secured at pleasure.

The application of the plate wheel for cars has become general throughout the country. On the Reading road the spoke wheel is retained from the facility it gives for "trigging" the wheels on the inclines at the mines. But the penalty of an uneven tread is soon felt, as the destruction of the chill, caused by sliding, leaves the wheel to wear in spots between every spoke, so that the periphery of the wheel approximates to a polygon with as many sides as there are spokes.

If the necessity for wronght iron wheels is felt for the cars of the "lightning trains," now run by some roads, we believe a feasible and a superior plate wheel, with removable tire, may be manufactured entirely by welding, so as to avoid the defective construction inflicted by riviting, or by the use of cast iron hubs, or other imperfect attempts at a wrought iron wheel. The expense of a good wrought wheel with a slip tire, would be no greater for a series of years than the present expense of chilled car wheels. A wrought wheel with tire would cost $60, and the tire would require to be renewed every two years, at an expense of $20 for each renewal. The present chilled wheels cost $15 each, and must be renewed every year. So that for ten years ten chilled wheels at $150, would be required on each end of each axle. The wrought wheel would cost $60 and would require for the same time besides the first tires, four additional tires, costing $80, or $140, in all. The expense of turning and renewing tires would be perhaps something greater than for renewing chilled wheels, but at any rate the difference in expense would be trifling. There is no reason why the wheel center will not endure twenty or thirty years. The only mechanical defect in the renewal of ordinary wheels is the waste of three fourths of perfectly sound material. Your master mechanic will say that there is danger of bursting a *tire*. But the absurd plan of stretching a tire bar half an inch in length in confining it to a wheel is no criterion of the merits of the application of a tire. Carry the same principle to every bolt, every joint,—strain the metal every-where where the greatest strength should be preserved to resist strain, and sufficient breakages will occur to relieve the shrunk tire from any special charge of fatality.

New Albany and Salem Railroad.

The New Albany, Salem and Michigan City railroad, says the Indiana *Sentinel*, is now being pushed forward with great energy. The track layers are continuing their operations north of Bedford, and will reach Gosport during the present season. The road is completed from Michigan City to the north line of White County, about 30 miles north of Lafayette. Another company of track layers have commenced at Crawfordsville, and will reach Greencastle during the present season. This will leave only the connecting link of twenty-five miles between Gosport and Greencastle to be completed. We may, therefore, safely calculate on the completion of this road by an early day next Spring. When completed, this will be the longest continuous line of railroad in the State, being something over 200 miles in length.

Anthracite as a Fuel for Locomotives.

In 1849, Geo. W. Whistler, Jr., Esq., made a report to the President of the Reading railroad to show the relative economy of coal to wood for locomotive fuel. From his experiments with the coal burning and wood burning engines upon that road, he deduced as the general ratio, one ton of anthracite to 1 8-10th cords of wood, burning the latter in the Reading built engines. This remains as the present relative efficiency of the two kinds of fuel on that road.

The principal item in the excess of the cost of repairs of the coal engines is caused by the destructive effects of the coal fire upon the furnace. Iron often proves unsound, and in the case of the engines on the Reading road was abandoned for the use of copper, but the mechanical action of the particles of coal projected against the copper sheets soon cut them out, and rendered necessary a return to the use of iron, which was selected with the greatest care.

The essential peculiarities of the Baltimore engines, enabling them to burn coal, were an extension of the grate, and of the area of cross section of tube openings, and the variable exhaust pipe.

In comparing the expense of burning anthracite with wood, the expense of renewing furnaces had to be taken into account as forming the chief difference in the cost of repairs.

The expense for renewing fire box was stated as $486, but deducting $108 worth of old copper saved, made the actual outlay $378, which expense it appeared would be incurred every fourteen months, making an expense of $324 per year. Deducting $75 as the depreciation of a wood burning furnace in the same time, there is left $249 per annum as the annual excess of repairs of the coal furnace. The renewal of furnace required 7 weeks detention of the engine.

The extra cost per year, including all repairs of furnace, tubes, renewal of grates, etc., for the coal engine was stated as $456 more than for the wood burning engines.

There is reason to believe that these extra expenses for repairs are now considerably lessened. The furnaces of the Reading built engines are now made wholly of iron 5-16 inch thick. The following facts furnished by Mr. Nicolls, superintendent of the Reading road will give some information upon the practical duration and maintenance of the coal burning engines.

"The side sheets of a locomotive furnace burning coal, will last from twelve to eighteen months and will cost $120 to renew. The other parts of the furnace last from 5 to 7 years.

"The iron tubes last some three years without piecing.

"The grate bars weigh 1530 lbs,—per set—and last 3 to 6 months."

Mr. Whistler's report contained some very useful suggestions upon the manner of working the steam, and regulating the draught for coal engines, and as these suggestions will apply with the same relevancy to the present plan and operation of engine, it is well to present them here.

"The use of the cut-off on coal engines has a more important bearing on the economy of fuel than the same arrangement upon a wood burning engine, and for these reasons: when the coal engines are worked upon the full stroke, the exhaust is very strong, and the draught through the fire proportionally increased; this soon produces an exceedingly hot fire, and every fresh supply of coals thrown upon it at once crumbles and compacts upon the grate, offering an increased resistance to the passage of air through its mass, while less perfect combustion results, and much of the finer coal upon the surface, is carried through the tubes and wasted.

This "*cutting-up*" of the fire, as it is termed, will take place when necessity requires that the engine should be worked upon the full stroke, and for this reason the cut-off becomes indispensable to a good coal burning engine.

"The first effect produced by a change from the full stroke to the cut-off is that of lessening the draught through the fire, by the moderated exhaust in the stack; evaporation then goes on more slowly in the boiler, and would reduce the pressure of steam necessary to working on the cut-off, were there no means of again increasing the intensity of the draught. The variable exhaust however, furnishes this with facility, and evaporation again becomes rapid, though with much less disturbance to the fire. All these considerations were well understood at the time the Baltimore coal engines were being constructed and the necessity for cylinders even of a greater diameter than 16½ inches, in anticipation of an adhesion of only twenty-three tons, was urged by the builder, but not allowed by the engineer of the Reading railroad. This restriction together with the increased weight of the engine, beyond that anticipated, has impaired the beneficial effects of the cut-off on the Baltimore coal engines, to such an extent, that economy in the consumption of steam and more quiet combustion of coal is almost counteracted by the rapid evaporation required by the small cylinders. I would not be understood by this to controvert the received truth, that the same quantities of heat will evaporate equal quantities of water, under all pressures; for so far as this question alone is considered, mere size of cylinders, could have no effect in increasing or diminishing the quantity of fuel consumed; but for the practical difficulties just stated, and the fact that for higher pressures, higher temperatures are required, and therefore radiation from all parts of the boiler must take place to a greater extent a larger expenditure of fuel will result. To this loss, there must also be added, that caused by leaking, which is in direct proportion to the pressure, and when it is required to carry steam very high, self preservation teaches men to keep the boiler blowing off all of the time, as the only surety that steam is not made too fast.

"When the Baltimore engines are worked on the full stroke, they make an abundance of steam with seven inches area of blast-pipe, though the effect upon the fire is to "*cut it up*," as explained; but when working on the cut-off, the area of blast-pipe requires to be so reduced that much of the ill effects on the full stroke are felt, and the resistance due to the blast pipe is also greatly increased, for the area may be reduced to 2¼ inches. No better proof of the inadequacy of the cut-off alone to insure economy with the present size of cylinders, can be offered than the fact, that except where attention has been paid by the engineman to the variable exhaust, the economy due to the cut off has not resulted from its use. * * * *

"It it quite practicable to substitute cylinders 18 inches in diameter, on the Baltimore coal engines, in place of the 16½ inches, and then the consumption of coal to wood, in all probability, would bear that proportion which experience proves attainable, viz: one ton of anthracite coal to two cords of wood."

Since the report of Mr. Whistler, the cylinders of the Reading and of the Baltimore built engines have been enlarged to 18 and to 19 inches in diameter. The present class of engines building at the Reading Railroad company's shops are upon Millholland's plan of boiler. His patent, granted Feb. 17th 1852, claims the *combination* of a blank grate (or grate having no openings for air at the front and sides), with a combustion chamber, or gas chamber, which is inserted like a smoke-box in the center of the length of the boiler. This gas chamber is secured in its place both by the support afforded by the tubes, and by stay bolts, and is surrounded by water. The tubes extending from the fire-box to this chamber, are, in the Reading engines, about 4½ feet long, and 3 inches in diameter; the tubes extending from this chamber to the smoke-box are 8 feet long and 2 inches in diameter. An opening, surrounded by a water space, is made at the bottom of the gas chamber and is covered by a door when the engine is at work. Some of the stays in this chamber are hollow to admit a supply of air, besides that entering through the grate.

We are not informed as to the economy attend the use of this arrangement. The only point upon which its value rests is if the combustion of the coal and gases is but partially completed in the furnace, under ordinary draughts. The operation of this arrangement should prove the nature and extent of combustion with common boilers. The gas chamber must possess the disadvantage of breaking up the draught midway of the boiler, and if combustion is already perfect in the furnace, (which is believed by many experienced mechanical engineers to be the case), then the air entering the gas chamber through the stays must impair the draught or reduce the necessary blast-area. There are four tube sheets instead of two, although from the tubes being so short there is less liability of their leaking.

The general plan of these engines is as follows.

Outside connected, horizontal cylinders, 18 inches in diameter, 20 inch stroke; six drivers having chilled rims 46 inches diameter, and a pair of smaller leading wheels under front end of engine. The furnace is extended so as to have all the available surface. There is about 25 square feet of grate area. The tubes are as described above, the length of gas chamber being two feet. 1000 square feet of tube and furnace heating surface. The furnace grates are not made so as to be moveable when upon the road. The feed water is injected around the passage leading up to the gas chamber. The water space around the passage, being below the action of the heating surface, collects and retains all of the sediment received into the boiler. Boiler 48 inches diameter.

There are two steam domes, with pipes leading from each to a double poppit, equilibrium throttle valve. The valve motion is that of a stationary box link, of cast iron. The variable exhaust is obtained by a cone placed in the exhausting nozzle, and worked by a handle on the foot board. The exhaust nozzle is near the bottom of smoke-

box, and projects the steam into a vertical "draught pipe" extending upwards to above the base of the chimney, so that the effect of the exhaust is exerted chiefly at the bottom of the smoke-box, and is partly equalized by the action of a very high column of steam, reaching to the chimney top.

The frames of the engines are extremely heavy, being solid, 4½ inches wide on top, and 4 inches deep. They extend only from the forward side of the fire-box to the forward end of engine. They have the pedestals and braces welded on, and each side, of about 17 feet in length, weighs 1650 lbs, or 3300 lbs, together.

The draw iron is very heavy and reaches from the tender, under the furnace, and to a girt connecting the frames, beneath the middle of the length of the boiler; so that the engine works around its own center on a curve, and is unconfined at each end.

The spark arresters for these engines are peculiar, and deserve a description. The straight chimney has a flaring top, over which is secured a flat topped conical cap, or truncated cone, the sides of which are of best plate iron, and the top grated with bars ⅛ inch thick, laid edgeways, and ⅛ inch apart. The inclined sides of the cap are perforated with rectangular openings of ¾ inch by ⅜ inch, in such a manner that the iron is cut through on but three sides of the opening, leaving the chip to adhere by one of its longest edges, and to be bent straight down, so as to allow the smoke to riise vertically. The sparks are projected against the back sides of these little pieces and are, in consequence, thrown down around the pipe. As many of these openings are cut through the cap as can be made without cutting away too much of the strength of the iron, which latter has to be of the best quality.

By the last report of the Reading road twenty-six of these engines were burning coal successfully and economically. Mr. Millholland is building ten additional burthen engines this year, all of which will be upon his plan of boiler.

Northern N. Y. Railroad.

The Boston Courier states that at a meeting of the board of directors of the Northern (New York) railroad corporation, held in that city yesterday, the following named gentlemen resigned: Messrs. T. P. Chandler, B. G. Baldwin, Benjamin Seaver, Isaac Spalding and Farnham Plummer. And Messrs. George N. Seymour, Henry Van Rensselear, Chas. J. Hendee, John A. Conant and Edw'd Crane were elected to fill the vacancies.

The board, as now constituted, is composed of the following gentlemen: Messrs. W. Raymond Lee, Henry M. Holbrook, J. C. Rogers, Isaac Livermore, Edward Crane and C. J. Hendee of Boston; John A. Conant, of Vermont; J. H. Titus, J. L. Russell, Hiram Horton, Sydney Lawrence, Geo. N. Seymour and Henry Van Rensselear, of New York.

W. Raymond Lee was elected President.

It is understood that this construction of the board was the result of entirely harmonious action on the part of all parties in interest, and that arrangements have been made to settle, in a satisfactory manner, many questions which have heretofore been a cause of trouble and embarrassment in the affairs of this corporation.

Journal of Railroad Law.

COLE COUNTY CIRCUIT COURT (MISSOURI.)

Jefferson, vs Price.—This is a cause in which plaintiff lately applied to Judge Miller of the circuit court for an injunction, to restrain the contractor of the Cole county section of the Pacific railroad from throwing upon the land of the former *waste* from the tunnel now being cut through the Morean Hill. In addition to the injunction prayed for, the plaintiff claims damages for the alleged trespass, consisting in the covering his land with the earth taken from the hill. Two days were occupied in the argument of the application for an injunction. It was admitted that the railroad company had the right to take a tract 100 feet wide, for the purposes of their road, but denied that they had the right to deposit earth on the lands adjoining.

The defendants answered that the charter of the company authorised them to take tracts of such greater width as might be necessary for the road in case of excavations. In the place in question, the engineer requires a tract 800 feet long and 500 feet wide. He had ordered the land in question to be staked out, that proceedings should be instituted for its due appropriation by the Co. according to law. The width of the land necessary for the road varies with the nature of the ground. On a level 100 feet are all that is required. But a greater width is necessary where there is occasion for heavy cutting, filling and tunneling.

It was next insisted by the plaintiff that by the constitution of Missouri, private property could not be taken without making due compensation to its owner.

The defendant's counsel replied that their proceedings in regard to the plaintiff's land were merely incipient. *Taking* another's land, implied an absolute appropriation thereof,—such as had not occurred in the present case. The plaintiff's title to his land was not affected by what had been done; and the defendants were entitled to a reasonable time for the purpose of having the land duly appraised and paid for. Should the railroad company be guilty of any unreasonable delay, in respect to these matters they might justly be deemed trespassers from the beginning, and held accountable as such for damages. The company had done what they could to have the land legally condemned, but their line was not yet fully located, and as to such portions as had been located, the engineers were fully employed.

It was also suggested—with doubtful logic—that railroad companies employed in works of public utility are possessed of extraordinary privileges.

The court refused the injunction.

It will be observed that this decision does not affect the plaintiff's claim for damages which is still undecided.

RAILROADS IN CITIES.

While Judges and lawyers have been for several weeks gravely inquiring whether the city railroads are nuisances, the people have promptly decided that point for themselves by forsaking, when they can, the omnibus for the railroad and the Third avenue cars have commenced running, while Judge Duer is deliberating and probably riding to and from the City Hall every day in vehicles whose legality is doubted.

Confidence is also shaken in all the pending injunctions against the city railroads, by the decision of Judge Edmonds on Saturday, upon dissolving the provisional Injunction in the case of the Mayor &c., and Russ and Reed. By the annexed extract it will be seen, that the Judge holds that all injunctions of the nature in question must be issued upon the application of the Attorney General.

"But this aspect of case controls my decision. In the year 1830, because Chancellor Kent in the case of the *Attorney General* vs. *The Utica Insurance Company*, 2 John, Chancery reports, 377, refused to allow the application of the powerful corrective of an injunction to a corporation under the circumstances of that case, the Legislature passed a law, a section of which reads. "Upon a civil action being "commenced by thAttorney General in the Supreme Court, it shall have power to restrain by injunction any corporation from assuming or exercising any franchise, liberty or privilege, or transacting any business not allowed in the *charter* of such corporation, and in the same manner restraining any individuals from exercising corporate rights and not granted to them by any law of the State."

This was a wise law which has been everlooked by my brethern. It gives me ample remedy, which it is only necessary to seek in the manner prescribed within it.

In respect to the Broadway rail case, *Palmer and Davis against Sharp and others*, its present aspect may be seen from the following statement of the points relied on by the respective Counsel of the parties.

It was urged by Mr. Field, for the grantees.

1st. That the plaintiffs failed in establishing their title in Broadway. The weight of evidence placed in the corporation. There was nothing to sustain the title but the *presumption from the existence of the highway.* The origin of that presumption is inapplicable to our circumstances, as is shown in the decisions of the courts of this state upon this point.—Broadway, below Vesey street, was opened by the Dutch. It passed through the land of the corporation from Vesey to Duane street. The land from Duane to Amity belonged to the sovereign; from Amity street upwards.—the fee of the land was by legislative act vested in the city.

2nd. There is a preponderance of testimony showing that the road would be advantageous to the city, for the following reasons.

1st. Relief to Broadway, which is now overcrowded.

2d. No racing.

3d. Easier riding.

4th. Quicker riding.

5th. Cheaper riding.

Besides, rails are no injury if laid flush with the pavement. The cars are no injury, because (1) fewer in number, (2) occupying less space, than stages (3) moveing in a right line.

3. It is objected that the resolution contains a contract for *cleaning the streets*, and such a contract can only be made by the *Street Department.* The answerhere is, thtt the provision applies only to contracts, to be paid for out of the public treasury, not to privileges granted on condition of doing certain things connected with the privilege, *e. g.* to pave or make sidewalks, or set telegraph poles, or dig sewers.

4th. There is no evidence of corruption on the part of the Common Council.

Judge Duer, during Mr. Field's argument rather in auspiciously. as regards hisprospect of success in the Superior Court, desired him to discuss these two points of law, viz :

1st. Whether the corporation can make a grant which operates as a *monopoly* of the use of the street.

2d. Whether any municipal legislature can make a *contract* to hold for ten years, which shall deprive a *future* municipal legislature of its legislative powers over the subject matter of such contract.

Upon the first point suggested, Mr. Field contended that the grant was no monopoly; that he had been introducing evidence for several days to prove it not to be such; that when the uses of the grant interfered with the rights of others, the court could interfere by injunction.

The Judge replied—That this point turned upon a sound judicial construction of the resolution creating the grant.

Upon the second point, Mr. Field denied the grant to be a *contract*, affirming that the grant was repealable at any subsequent time; that it was not void *ab initio*, but voidable at the action of the corporation, citing the Brick Church case as an instance of the repeal of an ordinance, vesting certain privileges of burial; and that if the corporation could make no manner of engagement, its corporate existance would be useless.

The judge replied—That where charters and ordinances had been amended or repealed, a reservation was contained in them which sanctioned such avoidance.

In his closing argument for the plaintiffs, Mr. Wood prefaced by stating that he adopted the negative of the points suggested by the judge, and would rely upon them in the courts above, if necessary.

He then proceeded to urge—

1st. That the grant interfered illegally with Broadway, if the projected railroad encroach upon the rights of adjacent owners, or interferes with the mode of use which the public make of Broadway, the two classes of plaintiffs mentioned in the complaint are *injured*, and for this injury the remedy sought is appropriate.

What is Broadway? An ancient highway; and this fact is to be judicially taken notice of. *Prima facie* adjacent owners have the fee in the street. Case of John and Cherry streets, 19 Wend. 659; 11 Barbour 452. Deeds granting land bordering on roads and streets have been liberally construed. Upon the abandonment of a highway there is a *reverter* to the adjacent proprietors.

2nd. It has been contended that Dongan's charter of 1686 grants the streets to the city of New York. This is true in one sense. But the grant of a street is not a grant of the fee. Chancellor Kent, in his edition of the Charters of New York, in a note to page 16, writes, "a grant was likewise made of all the existing streets, lanes, highways, and alleys, within the city for the *use of the corporation and inhabitants*; and with power to the corporation to establish, make, lay out, amend and repair all streets, highways, alleys, lanes and water courses, ferries and bridges, necessary and convenient for the inhabitants." The chancellor's language clearly expresses that he considered the mere use alone to be vested in the city.

For the sake of the argument suppose this a mistaken view. Still, though the fee be in the public, the adjacent owners have a right to use the street for certain purposes. A mandamus would be granted, to command the authorities to allow the construction of a vault. 1 Ser. and Rawle, 219.

The public also have rights which cannot be taken away. The authorities may prescribe the manner of use. The public travel upon Broadway cannot be obstructed.

3d. The resolution authorising the Broadway railroad is a mere grant.

The Common Council passed the resolution and the grantees accepted the offer which it embodied. The Common Council may be called the legislature of the city. But there are two kinds of legislation. 1st. Legislation proper. 2d. A grant clothed in legislative garment for convenience. The present act belongs to the second class of legislation. This subject was discussed in two cases, which I will give the court at another stage of this argument.

The attention of the court was called to a debate in Parliament, between earl of Chatham and Lord Mansfield. The latter contended that Parliament could pass any law, and therefore one taxing America. On the other hand, the Earl of Chatham thought that a certain class of laws could not be passed, without a representation of the persons upon whom it was to act. Which was right, very few persons in this country, at least, will now doubt.

The resolution before the court granted both a *franchise and property*.

The rails of the road will take more than twelve feet of the 'cream' of the street, besides what may be taken by the projection of the cars over the rails. This grant conveys an easement; but one which can, *ex necessitate*, be enjoyed by the grantees alone. The right to run cars and take toll is a franchise.

The grant is *administrative*, and requires the consent of the Mayor.

The Municipal legislature was not sovereign, but subject to judicial control, especially when granting a franchise.

The legislature of a *state* is not subject to judicial control. But this is because of the sovereignty of that body, from the nature of the case, *propter dignittaem*. It is better to submit to the errors of the state legislature than to subject it to such control. The courts however, control legislatures in this country, *sub modo*, when they have passed unconstitutional laws, by pronouncing such laws void. Such is not a direct judicial interposition, but it is exercisable only when a question of property or liberty is brought before the judiciary. Neither a writ of prohibition, mandamus, or injunction would be issued against the legislature.

But the petty Common Council partakes of none of the qualifications of a sovereign legislature. The counsel had many decisions where the writs of mandamus, prohibition, and quo warranto had been issued, but their very numbers made him conclude that it was not respectful to submit them.

Christopher, vs. the Mayor and others, 2 Barbour, and Lawrence, vs. the Mayor and others, 3 Barbour, were cited in support of these positions.

In conclusion, the adjacent owners on Broadway, have exercised their rights from time immemorial; they have vested rights in the premises which cannot be interfered with, and any obstruction to these rights is a nuisance. A mere alley-way will be left on each side of the track, over which sixty-one cars are continually to pass. And this is to take place just after Broadway has become a business street, abounding in stores and hotels requiring appropriate vehicles. If the cars drive out other vehicles, then the grant is a monopoly. The corporation if not bribed to make this grant, have, in spurning better offers, recklessly abused their trust, and that with the collusion of the grantees.

The court will take time to decide the question.

For the American Railroad Journal.

Locomotive Trial Trip

We have been furnished by Mr. H. L. Martine, Superintendent of the Machine Shop at Scranton, with the result of an experiment made on the 18th ult., upon the Delaware, Lackawanna and Western railroad, which seems to challenge the world for its equal in the capacity and draught of locomotive engines:

"The Ontario is a ten wheel engine, six drivers, four feet six inches in diameter, connected; cylinders 17 inches in diameter, 24 in. stroke; manufactured by Rogers, Ketchum & Grosvenor, Paterson, N. J.

	lbs.
Weight on drivers	50,500
" trucks	17,700
Total weight of engine	68,200
Weight of tender with wood and water	40,400
Weight of engine and tender	108,600

or 54 tons 600.

The Wyalusing is a 10 wheel engine, six drivers 4 feet 6 inches in diameter, connected; cylinders seventeen inches diameter, 24 inch stroke; manufactured by Danforth, Cooke & Co., Paterson, N. J.

	lbs.
Weight on drivers	48,200
" trucks	17,600
Total weight of engine	65,800
Weight of tender, wood and water	40,400
Weight of engine and tender	106,200

or 53 tons 200.

First experiment was made with train composed of 100 four wheel cars of coal, whose gross weight was ..... 796 tons, 1100
Deduct weight cars ..... 300 " 100

Total weight of coal ..... 496 tons, 1000

The Ontario, T. Duncan, engineer, I. T. Puterbaugh, conductor, attached to the above train at Tunkhannock station and started up a grade of 21 feet in the mile, at the rate of 5 miles an hour for one mile, and came to a stand on a reverse curve; cut off 9 cars, leaving 91 cars, weight 725 tons, with which she went to Hopbottom Station at the rate of 7 miles per hour, the grade continuing the same.

The Wyalusing, John Warren, engineer, A. Hunt, conductor, was then attached to the whole train of 100 cars, at 10 o'clock 28 minutes, and arrived at Oakley's Station at 10.55, making the run up a grade of 21 feet, through continuous curves of about one thousand feet radius, at four miles per hour.

The Ontario again attached to the same train of one hundred cars at Oakley's, and drew the train at the rate of six miles an hour, under circumstances similar to the Wyalusing, grade and curves continuing the same.

At New Milford, another 100 cars of coal were added to the train, making a train of 200 cars, 2,652 long, or over half a mile.

Total weight of train, including engine, tender, &c.....	1,653 tons,	400
Deduct weight of engine, tender and cars.....	655 "	1300
Total weight of coal.....	997 tons,	1100

The Ontario, attached to above train, started the whole train on a level, out of a switch, both ends of the train being on a curve at the same time. The trip was made from New Milford to Great Bend, a distance of six miles, in 30 minutes, being at the rate of 12 miles an hour, overcoming in the distance a grade of 15 ft. to the mile, for about ¾ of a mile."

We also have the result of a similar trial of engines, made in May last, on the New York and Erie and Cayuga and Susquehanna railroads:

Engine No. 25, on the New York and Erie railroad, hauled from Great Bend to Binghampton, a distance of fifteen miles, in one hour, one hundred coal cars, containing each five tons gross of anthracite coal, and ninety-two of the same laden cars, with four other cars heavily freighted with bridge timber, were taken on to Owego, a further distance of 22 miles.

It must be borne in mind that each coal car weighs three tons, making each loaded car to weigh 8 tons, gross weight.

At Owego the ten-wheel engine "Tunkhannock," built by the firm of Rogers, Ketchum and Grosvenor, took one hundred cars of anthracite coal, containing five hundredand two tons gross of coal, weighed and hauled over the Cayuga and Susquehanna railroad to Ithica, thirty-five miles, at a speed of nine miles per hour, and without a single accident or slipping of wheels upon the whole trip. 10 miles of the distance are over an ascending grade of 21 feet to the mile, and two thousand feet on an ascending grade of 30 feet to the mile.

LACKAWANNA.

Economic Limit of Speed.

Of all the members which compose the great body of the railway, the *locomotive* is probably the nearest perfected. No signal improvements have been made upon it for several years, nor are we aware that any expectations are had of essentially altering its structure so as to make it to a great extent, more perfect than now. Its great points were the multflue boiler, the blast pipe, the expansion valve, and the close ash pan. They are still the most important among its arrangements. There are, still, useful and economical applications and improved modes of working, which are well understood on some roads, but which are not generally applied.

The capabilities of the locomotive upon common roads seem however to be well known. That it will draw fifty times its own weight, on a level, is known; that it will move at the rate of 60 miles per hour we have daily evidence. From a certain relation which its principles present, we are not led to expect, that for ordinary purposes these results will be sensibly exceeded.

So far, then, as its actual capacity will go, there are reasons for believing that capacity is now known and realized; but its effective capacity may yet be very much increased by diminishing the resistances with which it is called to encounter. The essentials to high speed, a level, firm, continuous, straight road, a double track, a safe system of signals, and a regular and fixed arrangement for despatching trains, so that their arrival at any point can be accurately calculated; are yet awaiting a general application.

The principle of continuity for a railroad, is of itself a very important one. The early tracks were laid with rails of cast iron, three feet in length. These were very quickly changed, when the railway came to be tested, by the substitution of wro't iron rails, of from 15 feet to 18 feet in length. This limit of length, was that indicated by the ability of the rolling mill, and was accepted by railroads as the best that could be had. But the same imperfections existed as with a three feet rail, only to a less extent, and these imperfections still present a serious obstacle to the economical maintenance of high speeds. And they show that the attainment of speed lies more with the directors and road-master, than with the engine man.

One thing which unfits a road for high passenger speeds, is the unnecessary speed of heavy fre't trains. The freight engine as generally adopted, is fitted for a passenger engine more than for any other business. The freight engine should be distinctive and peculiar, adapted for the most efficient and economical speed; the passenger engine should be adapted for the quickest speed allowed by the condition of the road. Freight does not possess a continually accumulating value, it has a fixed value—independent of fluctuations in markets—and when consumed, its value is destroyed. The detention of freight upon trains need not affect the business connected with its purchase and sale; in other words it need not be made as so much capital lying idle. With human beings, the case is different. Time spent in travelling, is time wasted for business purposes.

The necessity exists for the highest speed for passengers, provided it be safe. Let any line show by a usual practice, that they can carry passengers one hundred miles per hour, and so soon as this fact is established, this speed will be a necessary condition on all important roads. If a man's time is worth one dollar an hour to him, and the charge of fare for an hour's ride of forty miles is one dollar, he spends two dollars for the end of being *moved*. If he can be moved the same distance for the same fare in half that time, the expense is reduced 25 per cent.

The primitive and imperfect character of the railroad has been retained up to the present time, and now, more than at any previous time does its business demand its improvement.

With this imperfection in general existence upon most railroads, it seems that new roads should turn their attention, in season, to the merits of the "continuous rail," with a view to its adoption. The saving which they will realize in a lessened depreciation of rolling stock and road bed would no doubt warrant its general introduction. To test it fully, an entire line should be laid with it, and the expenses of repairs ascertained. The rail possesses a *principle* of perfection, and should be allowed to develope that principle. It promises safety, economy, and the means for high speeds.

Memphis Convention--Pacific Railroad.

Below we give the substance of remarks made by General M. Hunt, of Texas, upon the resolutions offered by Hon. John Moore, of Louisiana, which were as follows:

Resolved, That the construction of a railroad direct from the Mississippi river to the Pacific ocean will be one of the most effectual and practical means of promoting and securing to the southern and western states a due share of the commerce of the U. States.

Resolved, That Congress has the power to make a liberal grant of the public lands to aid in the construction of said railroads under the conditions heretofore stipulated in like grants for the carrying of the mails and transporting the troops and property of the U. States.

Gen. Hunt moved a reference of these resolutions to a committee composed of one person for each state represented, and accompanied his motion by the following remarks:

The gentleman from Louisiana, Judge Moore, had made reference in his address to the South-Western railroad from the Mississippi river to the Pacific ocean as necessarily having to pass through Texas, and that a grant of land would probably be made by that state to the part of the road which would pass through its limits, he availed himself of the occasion to state that Texas had already made the grant—that the Texas Central railroad was chartered in 1852. It was to commence in the city of Galveston—that the company had the right to construct its main trunk to any part of Red river, in the limits of Texas, and make and maintain as many branch roads as they might deem expedient—that the state of Texas had donated eight sections of land of 640 acres each, amounting in the aggregate to 5,120 acres per mile to the trunk road and the branches, that the company may make, and that the charter was perpetual.

The concentration of the several projected roads from the important points on the Mississippi river of St. Louis, Cairo, Memphis, and Gaine's Landing at or near Fulton, and of the Vicksburg, Shreveport, and Texas, and the New Orleans, Opelousas, and Shreveport road at Shreveport, had induced the Texas Central railroad company, to run its main trunk to Red river near Fulton, and to make a branch from there to San Francisco, or to San Diego.

The Government of the United States grants to any railroad company the right of way through any of its public domain with an appropriation of an adequate strip of land for the railroad bed.

The Hon. Robert J. Walker has in his possession the written authority of 13 gentlemen of great respectability in California to allow their names to be used as officers and directors for the construction of roads from San Francisco and San Diego to the Colorado of the west, near the mouth of the Gila and of the South-eastern boundary of California.

These roads from San Diego and San Francisco are to meet and unite with the Great Texas Cent. railway, after it passes through New Mexico, at or near the mouth of the Gila into the Colorado of the west.

The road, however, from the Colorado of the west although it is intended to be a continuation of the Great Texas Central railroad will be under the government of officers and directors who are citizens of California, as the general railroad law of California, requires that the directors of all railroads within its limits, shall be citizens of that state.

It will be thus seen that the Great Texas Cent. railroad company has already made its connections to construct its road to San Francisco or San Diego or to both. It is understood that Col. John C. Hays, is to be the president of the continuation of the road from the western boundary of New Mexico to San Francisco and San Diego.

The point at which the road is to cross the Rio Grande has not been determined by the Co; it is

expected to be at or near El Paso Del Norte, or Albuquerque.

The report of the engineers now making reconnoisances from the Red river to the Pacific will determine the company in this respect.

As President of the Texas Central railroad, and of which the Hon. Robt. J. Walker is vice president, I can say that any propositions which may be made by the companies of St. Louis, Cairo, Memphis, Little Rock, Gaines' Landing, Vicksburg and New Orleans roads pointing in the direction of Texas, whether near Fulton or Shrevesport, or further west, will be received with the greatest consideration and respect.

Gen. Hunt continued his remarks by saying that the government of the United States had donated six sections of land per mile to a road from Cairo to Fulton—6 sections of land per mile for a road from St. Louis to intersect with the Cairo and Fulton road—six sections of land per mile to a road from some point of the Mississippi river, (probably this,) on the eastern border of the state of Arkansas to intersect the Cairo and Fulton road. So it seems that congress has already actually made appropriations for three roads from the Mississippi river concentrating in one road, which is to terminate at or near Fulton in a direct route to the Pacific ocean. The question, he said, seemed to have been settled as to the points at which the government of the United States had determined to aid roads on the South-Western route from the Mississippi river. Three points had been designated, and appropriations of six sections of land of 640 acres each, to all of them, had been donated by the United States. It appeared to him that the western border of Arkansas and the northern part of Texas, on the Red river was the proper point for the trunk of the Pacific road, to commence at, and that the Texas Central railroad afforded the various local roads which are to terminate in the valley of the Red river that trunk.

All experience, he said, had shown that private enterprises were infinitely more successful in the accomplishment of great internal improvements in the U. S. that when any of the several States of the Union had undertaken them, and he believed that it would be better for private enterprise to undertake the Trunk of the Pacific road, than for the United States government to do so. There was an abundance of capital in the United States to make the road to the Pacific ocean, The Texas Central railroad company would be grateful to the United States for donations of land along its whole route.

Propositions had already been made to construct the Texas Central railroad, without solicitations on the part of the company, and propositions are now under consideration, and negotiations in progress to construct it.

Gen. Hunt concluded his remarks by saying that it would afford the Texas Central R. R. Co., the greatest satisfaction, to have the St. Louis, Cairo, Memphis, Gaines' Landing, Vicksburg, Little Rock, and New Orleans railroad companies interested and associated with them in constructing their road from the valley of the Red river to the Pacific ocean.

In Convention, third day, the resolutions of Judge Moore being under consideration.

Gen. Hunt of Texas said he did not rise to oppose the resolution; that he was willing for this and all the other resolutions which had just been offered by the enlightened committee to be also adopted; that he would be anxious for the government of the U. S. to construct the road as recommended by the committee, if the enterprise was beyond the reach of an individual corporation or corporations But he did not so consider it. Repeated efforts had been made in congress to induce the government of the United States to undertake the construction of the road, or to vote ample means for the purpose, all of which had been rejected by congress. He begged leave to repeat in substance, in part, what he had said on yesterday, as the committee of two delegates from each state represented in the convention were absent in their deliberations at the time of his remarks when the honorable gentlemen from Louisiana, judge Moore, made reference to the necessity of the passage of a road from the Mississippi river to California, through the territory of the State of Texas, and expressed the belief that Texas would grant land to such road, he had said to the convention that there had already been granted to the Texas Central railroad company a charter to pass with a road through the whole extent of the state, with a grant of eight sections of land of 640 acres each, to every mile of road that might be constructed by the company within the limits of the state, he also described the route contemplated by that main trunk road to Red river, and the course of its branch road from Red river within the limits of Texas, and through New Mexico and California in the direction of San Francisco and San Diego.

He alluded to the readiness with which the Texas Cent. R. R. Co. would listen to, and entertain with the greatest consideration, propositions from the St. Louis, Cairo, Memphis, Little Rock, Gaines' Landing, Vicksburg and New Orleans companies,—whose roads point towards Texas, in their course for California—to become interested, and unite with them in constructing the great road from the valley of the Mississippi, on the Red river, in Texas, to the Pacific ocean, and said that it was a source of high gratification to him, to notice in the resolution of the committee this morning, that the valley and not the Mississippi river itself, was proposed as the starting point for the main trunk road. He had also stated on yesterday that there was ample individual capital in the U. States, or that capital could be negotiated for in the United States to back the great enterprise and carry it through, without appealing to the government of the United States to construct and own the road.

If, continued Gen. Hunt, we are to invoke the aid of the Government of the United States in the construction of the road, let it be by asking liberal donations of the public domain, and the loan of its credit in endorsing, or guaranteeing the payment of certain amounts of the bonds of the company, and give the Government liens on the lands granted, and the road itself for their indemnity against loss. This it appeared to him would be better policy than to ask the Government to adopt some plan for the building of the roads to California, and these repeated efforts have resulted in as many repeated failures.

Let us, therefore, he said, undertake the work by private enterprise, and if we cannot obtain the lands or the loan of credit which will be solicited from the Government of the United States, let us ask the States interested in the construction of the South-western road to the Pacific Ocean, to loan us their credit to limited amounts each, and take liens on the lands granted, and the road itself, for indemnity. Suppose that each of the States represented in this convention was to loan its credit to the Texas Central Railroad Company, for one thousand dollars each per mile of road from Red river to the Pacific Ocean, or even half that amount, ($500 per mile) and his word for it, said Gen. H., we will be enabled to carry you to San Diego or San Francisco from this city in ten years from this date, in a run of from three to five days. And to accomplish this desirable object let all the companies who have in contemplation the construction of roads to *the valley of the Mississippi or Red river*, unite and become interested with the Texas Central Railroad Company and the energies, the talent, the wealth and the influence of those who compose them, combined cannot, fail to speedily consummate the great work so much desired by us all. Yes, sir, said Gen. Hunt, let all the valley of the mighty Mississippi, from St. Louis, to New Orleans along the Gulf of Mexico to Galveston and Brazos Santiago be united and arouse themselves to action. Let us make a long pull a strong pull and a pull altogether, at St. Louis, Cario, Memphis, Gaines' Landing, Vicksburgh, Natchez, New Orleans and Galveston, and in the whole of the intervening country between and our utmost wishes must and will be speedily consummated by private enterprise.

As he had remarked, said Gen. Hunt he should not oppose the passage of the resolution proposed by the committee, and whilst he believed Congress would vote lands to a trunk and branch roads passing in the direction of California, he did not expect the Government of the United States would ever, either own or undertake to make of itself, a railroad or railroads across the continent to California.

The estimate of my esteemed and enlightened friend, Mr. Smeades, of Mississippi, which you have just heard, makes the income from a road from here to the Pacific Ocean (at $200 each, for passengers,) one hundred millions of dollars per annum, if only the same number pass over the road which are now annually passing to the same places across the continent south of the limits of the United States. In addition to these passengers, I will add as only one item, that as soon as the road is consiructed, a double track will be required for the transpartation of coal, alone to propel the steamers which will be necessary for commercial and passenger purposes from our shores on the Pacific to the great East. That from China, and the numerous other countries in the East, including, probably, at no distant day, Japan, it was impossible to compute the immense commerce which would, as by magic, be thrown into our lap, and also through our territory, to Europe. That after the first road commenced its regular business, it would not be ten years thereafter before it would probably be necessary to build ten double track roads from *the valley of the Mississippi, on Red River*, to the Pacific ocean.

In reference to the cost of the road to the Pacific Ocean from the valley of the Mississippi, on the Red river, to the Pacific Ocean, and the inability of private enterprise to afford it, he would state that from the best sources of information he had been able to consult, that the cost would not exceed from seventy-five to one hundred millions of dollars. Col. Abert, Chief of the United States Topographical Corps, has officially estimated the cost of a railroad from the Mississippi to San Diego at eighty-five millions of dollars. From Red river it will be several millions less. The road can be built from the valley of the Mississippi to San Diego or San Francisco, for less than forty millions in cash, including running stock, depots, and depot buildings, by appropriating part stock and part bonds by the company in payment to the contractors. If such a a road would derive an income from the passengers alone of one hundred millions of dollars per annum, as had been suggested by Mr. Smeades, or even half that sum, there would be much less difficulty in obtaining the capital necessary for the construction of the road than gentlemen seem to anticipate. In his opinion it was unnecessary to solicit the Government of the United States to construct the road, if that solicitation is based on the opinion that private enterprise cannot consummate it with the donations of lands now granted, and which will doubtless be granted to the Texas Central railroad company.

Ohio and Pennsylvania Railroad.

The iron has arrived, the cross ties are mostly on the ground, and every preparation made to put down the second track between this city and Sewickley. This will add greatly to the convenience and facilities of this end of the road, which is crowded with business.

We are glad to learn that the road is now doing an excellent business, all its trains running full. The freight business is rather dull, but the fall business will soon commence, and will doubtless be heavy.

A cash dividend of 3½ per cent, for the last six months, will be declared on the 1st of July,—which will be the commencement of future regular cash dividends of from 7 to 12 per cent. As the road is only just completed, the fact of its being able to pay a dividend equal to 7 per ct. per annum from its earnings, is evidence of the excel-

lence of its location and of its superior management.—*Pittsburgh Gazette.*

American Railroad Journal.

Saturday, July 9, 1853.

Stock and Money Market.

There has been very little doing in Wall street the past week. The preparation for the ordinary payments on the first of the month, and for the Fourth, as a necessary consequence, checked all operations, that had not a particular reference to these days. During the present week transactions have been very much limited by the continued absence of a large number of our business men.

In the stock market but little is doing. The tendency of the *fancies* is downward. There appears to be no disposition to speculate in anything but a few low priced *Mining stocks.* The demand for first class securities continues fair, and the prices of these are well sustained. Money is abundant, with every indication of continuing so thro' the hot season, owing to a general indisposition to enter upon new contracts until the end of the Fall business.

It was announced, on Thursday last, that Mr. T. J. Townshend, treasurer of the Erie railroad, had resigned.

The election of the Central railroad of this state held at Albany, resulted in the choice of the following directors: Erastus Corning, John V. L. Pruyn, and E. C. Melntosh, Albany; Russell Sage, Troy; Alonzo C. Paige, Schenectady; David Wager, Utica; Horace White and J. Wilkinson, Syracuse; J. H. Chedell, Auburn; H. B. Gibson, Canandaigua; Joseph Field, and A. Boody, Rochester; Dean Richmond, Buffalo.

At the annual meeting of the Hartford, Providence and Fishkill railroad company held at Stonington on the 27th ult., the old directors were re-elected. The earnings from operations of road were for the year ending 1st June,

1853	$69,629 52
Year ending 1st June, 1852	60,119 04

The annual report was ordered to be printed for the use of stockholders. The work on the extension is progressing favorably, and is expected to be opened for travel in the course of the present year.

A meeting of the stockholders of the Philadelphia, Wilmington and Baltimore railroad was held at Wilmington, June 30. It was voted almost unanimously to accept the act of the legislature of Maryland, granting the company the right to build the bridge over the Susquehanna, and in order to raise the necessary funds, it was voted to adopt the plan suggested by the directors in their circular, of creating new stock at $40 per share.

The earnings of the New Haven Railroad Company for the month of June, 1853, amounted to $59,738 80, against $55 546 13 for the same month in 1852, showing an increase of $4,192 67.

The receipts of the Milwaukie and Mississippi Railroad Company during the month of June, 1853 amounted to $18,563 17, showing an increase over those for May of about $4,000.

The receipts of the Erie railroad for June show a fair gain upon those of June 1852:

They were	$362,748 90
June 1852	312,367 08
Increase	$50,381 82

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of $100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings in 1852.	Net Earnings in 1852.	Dividend, 1852.	Price of Shares.
Atlantic and St. Lawrence	Maine.	150	1,417,587	3,000,000	4,649,392	200,233	.....	none	95
Androscoggin and Kennebec	"	55	809,378	905,300	1,994,429	131,006	.....	none	30
Kennebec and Portland	"	72	876,741	800,000	2,180,000	133,338	.....	none	40
Port., Saco and Portsmouth	"	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland	"	20	227,981	291,200	In progres	15,694	.....	none	40
Boston, Concord and Montreal	N. H.	93	1,649,270	622,000	2,540,217	150,538	79,659	none	53½
Concord	"	35	1,485,000	none.	1,485,000	305,805	141,836	10	108
Cheshire	"	54	2,078,625	720,900	3,002,094	287,768	55,266	5	....
Northern	"	82	3,016,634	.....	.....	328,782	163,075	5	58
Manchester and Lawrence	"	24	717,543	.....	.....	.....	.....	6½	99
Nashua and Lowell	"	15	600,000	none.	651,214	132,545	51,513	8	108
Portsmouth and Concord	"	47	.....	.....	1,400,000	.....	.....	none	....
Sullivan	"	26	.....	.....	673,500	.....	.....	none	9
Connecticut and Passumpsic	Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	46½
Rutland	"	120	2,435,328	1,964,588	.....	324,790	165,340	none	35
Vermont Central	"	117	8,500,000	3,500,000	12,000,000	.....	.....	....	17½
Vermont and Canada	"	47	1,500,000	.....	1,500,000	Leased to the Vt. C		ent.	102½
Western Vermont	"	51	392,000	700,000	.....	Recently	opened.	none	....
Vermont Valley	"	24	.....	.....	.....	.....	.....	none	....
Boston and Lowell	Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	100
Boston and Maine	"	83	4,676,974	150,000	4,092,927	659,001	338,215	7	105
Boston and Providence	"	53	3,160,390	390,000	3,546,214	429,484	212,625	6	88½
Boston and Worcester	"	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101½
Cape Cod branch	"	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River	"	52	1,591,100	193,500	1,801,946	229,004	72,028	5	57½
Eastern	"	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	95
Fall River	"	42	1,050,000	none.	1,050,000	229,445	99,589	8	107
Fitchburg	"	66	3,540,000	100,000	3,633,673	574,574	232,787	6	99½
New Bedford and Taunton	"	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County	"	26	547,015	819,743	1,245,927	67,251	23,415	none	67
Old Colony	"	45	1,964,070	282,300	2,293,534	322,213	101,510	none	86½
Taunton Branch	"	12	250,000	none.	307,136	137,406	24,399	8	....
Vermont and Massachusetts	"	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17½
Worcester and Nashua	"	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	60
Western	"	155	5,150,000	5,319,520	9,953,759	1,339,873	682,195	6½	99½
Stonington	R. I.	50	.....	.....	.....	.....	.....	....	50½
Providence and Worcester	"	40	1,457,500	300,000	1,731,498	253,690	139,514	6	....
Canal	Conn.	45	.....	.....	.....	.....	.....	10	....
Hartford and New Haven	"	62	3,600,000	472,000	.....	600,408	332,223	none	124
Housatonic	"	110	.....	.....	2,500,000	329,041	168,902	none	....
Hartford, Prov. and Fishkill	"	50	.....	.....	In progres	.....	.....	none	....
New London, Wil. and Palmer	"	66	558,861	800,000	1,511,111	114,410	.....	.....	....
New York and New Haven	"	61	2,992,450	1,641,000	4,825,937	814,714	443,993	7	108
Naugatuck	"	62	926,000	440,000	.....	.....	.....	....	....
New London and New Haven	"	55	750,500	650,000	1,380,610	Recently	opened.	none	45
Norwich and Worcester	"	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	56½
Albany and Schenectady	N. Y.	17	1,000,000	685,301	1,774,584	296,112	164,448	8	145
Buffalo and New York City	"	91	900,000	1,550,000	2,550,500	Recently	opened.	none	85
Buffalo, Corning and N. York	"	132	.....	.....	In progres	.....	.....	none	65
Buffalo and Rockester	"	76	1,825,000	184,903	2,415,014	619,976	415,323	10	182
Buffalo and State Line	"	69	879,636	872,000	1,921,270	Recently	opened.	....	130
Canandaigua and Niagara F	"	50	.....	.....	In progres	.....	.....	....	....
Canandaigua and Elmira	"	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna	"	35	687,000	400,000	1,070,786	74,241	23,496	none	....
Erie, (New York and Erie)	"	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	79½
Hudson River	"	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	72½
Harlem	"	130	4,725,250	977,463	6,102,935	681,445	324,494	5	64½
Long Island	"	95	1,875,148	516,246	2,446,391	205,068	44,070	none	36
Ogdensburgh (Northern)	"	118	1,578,311	2,780,760	4,933,029	435,845	176,123	none	42½
Oswego and Syracuse	"	35	350,000	201,500	607,803	90,616	43,609	4	70
Rochester and Syracuse	"	184	5,132,990	700,123	6,016,778	988,366	549,824	8	154
Rutland and Washington	"	60	850,000	400,000	1,250,000	Recently	opened.	....	....
Saratoga and Washington	"	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Syracuse and Utica	"	53	2,400,000	126,000	2,661,477	616,918	376,025	10	182
Troy and Rutland	"	32	237,690	100,000	329,577	Recently	opened.	....	33
Troy and Boston	"	39	430,936	700,000	1,043,357	Recently	opened.	none	....
Utica and Schenectady	"	78	4,124,000	none.	4,093,273	1,029,774	724,770	10	195
Watertown and Rome	"	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy	N. J.	65	1,500,000	.....	4,327,400	1,388,385	478,413	10	150
Morris and Essex	"	45	1,022,420	128,000	1,220,325	140,154	80,351	4	....
New Jersey	"	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central	"	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	....
Cumberland Valley	Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	....
Erie and North East	"	20	600,000	.....	750,000	Recently	opened.	....	125
Harrisburgh and Lancaster	"	36	783,950	688,051	1,609,494	200,249	106,932	8	....
Philadelphia and Reading	"	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	92½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of $100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings in 1852.	Net earnings in 1852.	Dividend, 1852.	Price of shares.
Philad., Wilmington and Balt.	Penn.	98	3,850,000	2,403,276	6,813,889	667,785	383,501	5	71
Pennsylvania Central	"	250	9,768,153	5,000,000	15,600,000	1,943,827	617,625	....	100
Philadelphia and Trenton	"	30	.....	.....	.....	.....	.....	....	....
Pennsylvania Coal Co	"	47	.....	.....	.....	.....	.....	....	....
Baltimore and Ohio	Md.	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	71
Washington branch	"	38	1,650,000	.....	1,650,000	348,622	216,237	8	....
Baltimore and Susquehanna	"	57	.....	.....	.....	413,673	152,536	....	42
Alexandria and Orange	Va.	65	.....	.....	In prog.	.....	.....	....	....
Manassas Gap	"	27	.....	.....	In prog.	.....	.....	....	....
Petersburgh	"	64	.....	.....	.....	.....	.....	....	....
Richmond and Danville	"	73	1,372,324	200,000	In prog.	.....	.....	....	....
Richmond and Petersburgh	"	22	.....	.....	.....	.....	.....	....	....
Rich., Fred and Potomac	"	76	.....	.....	.....	.....	.....	....	100
South Side	"	62	1,328,722	800,000	In prog.	.....	.....	....	....
Virginia Central	"	107	1,400,100	446,036	In prog.	176,485	74,902	none	....
Virginia and Tennessee	"	60	3,000,000	1,500,000	In prog.	.....	.....	none	....
Winchester and Potomac	"	32	180,000	120,000	416,532	89,776	.....	12	....
Wilmington and Raleigh	N .C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	....
Charlotte and South Carolina	S. C.	110	.....	.....	.....	.....	.....	....	....
Greenville and Columbia	"	140	1,004,231	300,000	In prog.	.....	.....	....	....
South Carolina	"	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Georgia Central	"	191	3,100,000	306,187	3,378,132	945,508	508,625	8	102
Georgia	"	211	4,000,000	1,214	.....	934,424	456,468	7½	....
Macon and Western	"	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee	"	71	.....	.....	In prog.	.....	.....	....	....
Wilmington and Manchester	"	....	.....	.....	"	.....	.....	....	....
Southwestern	"	50	586,887	150,000	743,525	129,395	71,535	8	....
Alabama and Tennessee River	Ala.	55	.....	.....	In prog.	.....	.....	....	....
Memphis and Charleston	"	93	776,259	400,000	In prog.	.....	.....	....	....
Mobile and Ohio	"	33	879,868	.....	In prog.	.....	.....	....	....
Montgomery and West Point.	"	88	688,611	.....	1,330,960	173,542	76,079	8	....
Southern	Miss.	60	.....	.....	.....	.....	.....	....	....
East Tennessee and Georgia	Tenn.	80	835,000	541,000	In prog.	.....	.....	....	....
Nashville and Chattanooga	"	125	2,093,814	850,000	In prog.	.....	.....	....	....
Covington and Lexington	Ky.	....	1,430,000	900,000	In prog.	.....	.....	....	....
Frankfort and Lexington	"	28	.....	.....	.....	87,421	44,250	....	75
Louisville and Frankfort	"	65	.....	.....	.....	.....	.....	....	....
Maysville and Lexington	"	....	.....	.....	In prog.	.....	.....	....	....
Cleveland and Pittsburgh	Ohio.	100	1,239,454	1,371,000	2,963,756	194,429	123,306	6	103
Cleveland, Painesv. and Ash.	"	71	.....	.....	.....	.....	.....	....	....
Cleveland and Columbus	"	135	3,027,000	408,200	3,655,000	777,793	483,488	12	132
Columbus, Piqua and Indiana.	"	....	.....	.....	In prog.	.....	.....	....	....
Columbus and Lake Erie	"	61	.....	.....	.....	.....	.....	....	....
Cincinnati., Ham. and Dayton	"	60	1,694,000	906,000	2,600,000	321,793	200,967	....	115
Cincinnati and Marietta	"	....	.....	.....	In prog.	.....	.....	....	....
Dayton and Western	"	40	310,000	550,000	925,000	Recently	opened.	....	80
Dayton and Michigan	"	20	.....	.....	In prog.	.....	.....	....	....
Eaton and Hamilton	"	36	.....	.....	.....	.....	.....	....	....
Greenville and Miami	"	31	.....	.....	.....	.....	.....	....	....
Hillsboro	"	37	.....	.....	In prog.	.....	.....	....	....
Little Miami	"	84	2,370,784	.....	2,634,157	526,746	314,670	10	120
Mansfield and Sandusky	"	....	900,000	1,000,000	1,855,000	.....	.....	....	....
Mad River	"	167	1,860,500	.....	.....	565,751	.....	....	....
Ohio Cental	"	57	.....	.....	In prog.	.....	.....	....	....
Ohio and Mississippi	"	....	.....	.....	"	.....	.....	....	....
Ohio and Pennsylvania	"	187	1,750,700	2,450,000	.....	Recently	opened.	....	....
Ohio and Indiana	"	....	.....	.....	In prog.	.....	.....	....	....
Scioto and Hocking Valley	"	....	.....	.....	"	.....	.....	....	....
Toledo, Norwalk and Clevel'd	"	87	552,000	800,000	1,317,140	Recently	opened.	....	150
Xenia and Columbus	"	54	1,092,137	119,500	1,257,714	237,506	135,363	15	....
Evansville and Illinois	Ind.	31	.....	.....	In prog.	.....	.....	....	....
Indiana Central	"	....	.....	.....	"	.....	.....	....	....
Indiana Northern	"	131	.....	.....	"	Recently	opened.	....	....
Indianapolis and Bellefontaine	"	83	.....	.....	"	.....	.....	....	....
Lawrenceburg and Ind	"	....	.....	.....	In prog.	.....	.....	....	75
Lafayette and Indianapolis	"	62	.....	.....	.....	Recently	opened.	....	....
Madison and Indianapolis	"	88	1,650,000	750,000	2,400,000	516,414	268,075	10	99
Peru and Indianapolis	"	40	.....	.....	In prog.	.....	.....	....	....
Terre Haute and Indianapolis	"	72	632,387	663,100	1,353,019	106,593	71,446	4	108
Rock Island and Chicago	"	....	.....	.....	.....	.....	.....	....	....
Chicago and Mississippi	"	....	.....	.....	.....	.....	.....	....	....
Illinois Central	Ill.	....	.....	.....	.....	.....	.....	....	136
Galena and Chicago	"	92	1,932,361	500,000	In prog.	472,109	.....	....	125
Michigan Southern	Mich.	315	2,499.410	2,629,000	6,430,246	592,187	293,046	....	145
Michigan Central	"	282	4,000,000	4,067,396	8,614,193	.....	.....	8	117
Pacific	Miss.	....	.....	.....	.....	.....	.....	....	....

The aggregate receipts of the 6 months were $2,159,455
Same time 1852 1,626,955

Increase $532,500

The receipts of the Hudson River railroad for the month of June were $94,978 79
Same month 1852 ..... 64,827 78

Increase equal to 46 per cent $30,151 06

The business of the Sub-Treasury for the month past has been:

June 1, 1853, balance $6,642,381 31

RECEIPTS.

On account of Customs	$3,867,155 86
On accouut of Patent Fees	3,105 52
On account of Post-Office department	37,246 54
On account of Miscellaneous	141,860 81
	4,059,368 73
Total	$10,701,750 04

PAYMENTS.

Treasury Drafts	$2,990,739 56
Transfer Drafts	128,856 72
Post office Drafts	181,913 07
	3,301,509 35
June 30, 1853, balance	$7,400,240 69
June 1, '53, by balance of funds to pay Interest and Coupons	$32,239 69
By appropriations	1,378,728 00
Total	$1,410,988 59
To payments	10,126 58
Balance	$1,400,862 01

Receipts for Customs in the year ending June 30, '52 ..... $28,910,527 22
Receipts for Customs in the year ending June 30, '53 ..... 38,738,627 79

Increase in 1853 ..... $9,827,627 79
Total Funds on hand $8,801,102 7

The commerce of the port of New York in June 1853, was:

ARRIVALS FROM FOREIGN PORTS.

		Tuns.
16	Steamships	30,034
102	Ships	82,133
94	Barks	41,877
150	Brigs	28,542
96	Schooners	11,815
458	Total	194,401

FLAG.

No. Vessels.		Tuns.
264	United States	132,589
106	British	33,371
29	Bremen	12,381
7	Hamburg	2,930
10	Oldenburg	2,548
4	Hanover	1,050
4	Prussia	1,311
4	Dutch	501
2	French	358
1	Mecklenburg	240
3	Swedish	1,156
14	Norwegian	4,308
1	Belgian	340
1	Sardinian	245
2	Sicilian	442
2	Danish	332
2	Venezuela	350
1	Dominican	120
1	Portuguese	135
458		194,401

The arrivals of Specie and Gold dust for the month of June, at this port, were $4,418,587.

Comparative Export of specie from the Port of New York, for the fiscal year ending June 30.

	1852-3.	1851-2.
July	$2,971,000	$6,004,000
August	2,936,000	2,673,000
September	2,122,000	3,490,000
October	2 452,000	1,780,000
November	810,000	5,034,000
December	1,180,000	5,668,000
January	748,000	2,869,000
February	1,121,000	3,552,000
March	592,000	612,000
April	767.000	200,000
May	2,162,000	1,835,000
June	3,264,000	3,556,000
Total	$21,125,000	$37,273,000
Decreased export	16,148,000	
	$37,273,000	

Comparative deposits of Gold Dust at Philadelphia for the fiscal year ending June 30.

	1852-3.	1851-2.
July	$3,200,000	$3,127,000
August	2,675,000	4,049,000
Sept	4,254,000	3,951,000
Oct	4,140,000	4,744,000
Nov	7,260,000	5,490,060
Dec	3,330,000	5,338,000
Jan	4,962,000	4,162,000
February	3,549,000	3,010,000
March	7,534,000	3,892,000
April	4,766,000	3,091,000
May	4,366,000	4,336,000
June	4,544,000	6,689,000
Total	$55,580,000	$51.879,000
Increase 1852-3		4,701,000
	$55,580,000	

Comparative exports of Domestic Produce from the Port of New York, for the fiscal year ending June 30.

July	$2,966,000	$3,188,000
August	2,341,000	3,260,000
September	3,289,000	2,594,010
Oct	3,498,000	2,702,000
Nov	3,529,000	2,452,000
Dec	2,948,000	2,512,000
January	2,995,000	2,419,000
February	3,325,000	3,353,000
March	4,705,000	4,313,000
April	4,224,000	4,244,000
May	4,166,000	4,250,000
June	5,057,000	3,566,000
Total dom. prod	$43,013,000	$38,853,000

Ohio and Mississippi Railroad.

At the recent annual meeting of the stockholders of this company, the following gentlemen have been chosen directors:

James C. Hall, Thos. Philips, Charles Stetson, Richard W. Keys, Charles D. Coffin, John Slevin, John Baker, Nathaniel Wright, Charles W West, H. H. Goodman, George W. Cochran, Eden B. Reeder, Cincinnati. Abner T. Ellis, Samuel Judah, William J. Hebberd, Cyrus M. Allen,—Vincennes. Thomas Gaff, John Cobb, Aurora. Hagaman Tripp, Vernon, (Ia.) Richard A. Clements, Washington, (Ia.) M. W. Shields, Brownstown, (Ia.)

At a meeting for organization, Hon. A. T. Ellis was unanimously re-elected, and after some remarks upon the present prosperity of the company and the duties which called him back to Vincennes, tendered his resignation, which was accepted, and complimentary resolutions passed. James C. Hall was then unanimously elected President for the ensuing year. H. H. Goodman, Secretary; Chas. D. Coffin, Solicitor.

The Slip Cast Iron Tire.

As much interest is manifested by railroad managers in the merits of this important improvement, and as its success depends, as much as does that of the wrought iron tire, upon an excellence of material and manufacture, we propose to give some hints as to how these desirable requisites may be secured.

It is well known that no part of the material of railroads is subject to more severe wear than the surface of the wheels of the cars and engines. This arises from the constantly recurring blows against the rails upon each point in the circumference of the wheel. To endure this the material of the surfaces of the wheels must be sound and strong, and to give a good guarantee of the possession of these qualities it should possess, as it will when earned a *reputation* for reliability. The Lowmor and the Bowling companies have secured a reputation for their manufactures by furnishing an article constantly the same and always reliable. Their processes of manufacture are established and are not experimental: their men are practised to each operation of the manufacture of iron, and the consequence is that the purchaser can predict with certainty the success of any of their manufactures. No one inordering a set of wrought tires would send to the nearest rolling mill as very few domestic tires, whatever they may be in special instances, are found to stand constant service. The insufficiency of domestic tires does not arise from any inability of our arriving at perfection in their manufacture, but from the fact that the process by which *one* good tire, or set of tires, has been made has not been perseveringly repeated in each succeeding tire.

Railroad superintendents and master mechanics know well enough what are the consequences of iron, or bad working, in tires. Splitting, unequal wearing, bursting, &c., are predictable results.

So it is with the cast iron tire. It has merits of economy in use and maintenance. Service and safety are afforded by its use, and for freight engines especially, it is very doubtful, if a more reliable material can be found. But it requires a strong, tough iron, of uniform character, such as would be selected for the most important purposes. The practice of working up old castings along with pig iron, from any or all quarters, would leave the manufactured product in the same circumstances as would be had by the domestic wrought tire, made from scrap, or any ordinary metal answering to the denomination of iron. The process of casting tires and wheels, requires the most practiced hand for melting, pouring and chilling, and none can claim a perfect knowledge of this important part of iron founding, except where it has been derived from long experience.

The establishment of Bush and Lobdell, at Wilmington, Del., possesses peculiar advantages in this respect, for the production of chilled wheels and tires. Having long ago completed the most *successful* chilled wheel, and having maintained a constant reputation for the manufacture of a superior article, they are certain of the success of their work. The partners of the firm having together the best knowledge and the largest experience in the selection of iron and the processes of conversion into wheels, are enabled also to insure the success of their work without trial of it. When an agency for the sale of the slip tire from the works of these makers shall be established in Cincinnati, as it soon will be, our Western railroad men will have the advantage of the guarantee of "the best tire for driving wheels of freight engines."

Paterson Locomotives.

The completion of a new locomotive, of superior design and construction, at the shops of Danforth, Cooke & Co, Paterson, N. J., was the occasion of an agreeable entertainment, given, on Saturday last, by that firm to their workmen. The workmen, numbering five hundred, proceeded from Paterson in an extra train, drawn by one of Danforth, Cooke & Co's. magnificent engines, to Jersey City, where they repaired to the Hudson House, the place assigned for their meeting. As it was our fortune to be present, and to have an opportunity for an examination of the work, whose completion was the event of this spirited celebration, we will give a description of the engine for the benefit of the large number of our readers who are interested in the construction of locomotives.

The engine is called the "Governor Williamson," and was built for the New Jersey railroad and Transportation Company.

It is outside connected, has 15 inch cylinders, 20 inch stroke, 6 feet driving wheels, and a center bearing truck. The frame is solid, with pedestals welded on, and provided with tightening wedges for taking up the wear of the driving axle boxes.

The boiler is 45 inches diameter, and has 129 two-inch copper tubes, 11 feet 6 in. long. The furnace is 4 feet 2 inches long, 3 ft. 4 in. wide, and 4 ft. 6 in. deep.

The valve motion is that of the shifting link, made of wrought iron, and having all its joints and wearing surfaces case-hardened. The arms of the lifting shaft are welded on. The link motion has been adjusted to equalize the admission of steam, for both strokes of the piston, with great accuracy. There are five notches in the front half of the circle or guide for the reversing lever. On the first of these the steam is cut off at 17¾ inches of the stroke, each way; on the second at 15 inches, on the third at 12½ inches, on the 4th at 10 inches, and on the fifth at 8 inches of both strokes. The steam ports are 14 inches by 1¼ inches.

The tires are of Lowmoor iron; the spark arrester is of Radley & Hunter's patent. The shell of the fire-box is covered with sheet brass, planished in a beautiful manner. The cylinder sides and ends, and the steam chests are also protected by planished sheet brass covers. The domes are of beautiful design, having symmetrical mouldings, and are wholly covered with brass. The forward dome has a globular top, on which is perched a large gilt eagle. The engineer's house, or "cab," is beautifully grained in imitation of oak, and has light columns between the windows, (which are Gothic,) with gilded bases and capitals.

The whole frame, boiler braces, spring straps, and equalizing levers are all planed and polished, in the style of the best "outside work." The braces which secure the fire-box to the frame are "expansion braces," fitted with much care, and allow the boiler to expand, without strain, when heated. This is a very useful arrangement.

The tender is mounted on two trucks of 4 wheels

each, and contains 1500 gallons of water. It is beautifully painted and ornamented.

This engine is constructed throughout of the best materials to be had, as are all of the engines built at these works. The workmanship is *extra*, there being much in extent and perfection of finish which is not generally met with upon locomotive work.

We would recommend such of our readers as can have an opportunity, to see this piece of mechanism, believing that they will say with us that, taking into consideration the symmetry of its design, the beauty and perfection of its workmanship, and the taste with which it is finished and ornamented, it is doubtful if it has been surpassed, if ever it has been equalled, in the United States.

Another point which deserves attention is, the very favorable proportions of this engine in the features of evaporative power and communicating capacity. Very few of the first class express engines of the English roads have received more liberal allowance of boiler and furnace room, or more ample steam passages than the "Governor Williamson." In this country the practice in the construction of passenger engines has been to allow much less of these elements of locomotive power.

Messrs, Danforth, Cooke & Co. have very convenient and complete works for filling large orders for locomotives. They have prepared themselves and have shown their ability, for executing first-class work. Their Mr. Cooke was for many years the foreman of Messrs. Rogers, Ketchum & Grosvenor's works.

An account of a large performance of one of their freight engines will be found in another part of the present number of our paper.

Locomotive Establishments.

The business of building Locomotives forms, at the present time, an important branch of manufacturing industry. The demand for engines consequent upon the construction of so many new roads is taxing every shop to its utmost capacity, and very many shops have contracts extending to deliveries a year or more ahead. Old establishments are extending their works and increasing their force, while new establishments are erecting in many parts of the country. The following is believed to give a pretty full list of all the establishments, devoted to this business, in the United States.

Where the writer has a personal knowledge of the establishments he has made some remarks upon their business, character of work, capacity, etc.

Portland Locomotive Works, Portland, Maine.—J. C. Churchill, Treas. John Sparrow, Supt.

Amoskeag Manufacturing Co. Manchester, N. H. O. W. Bayley, Agent. Build two to three engines per month.

Lowell Machine Shop. Lowell Mass. W. A. Burke, Supt. This company are adding to their works, and will be enabled to complete three to four engines per month.

Essex Co's Works, Lawrence, Mass. Gordon Mc. Kay, Agt. Charles Hastings, draughtsman and designer. This company have built many superior engines and can build three to four per month.

Boston Locomotive Wk's, Boston, Mass. Holmes Hinkley, President; D. F. Child, Treasurer. This old and extensive establishment has stood at the head of Locomotive building in the eastern states for several years. They have established a style of engines which has been the model for many of the builders at the east. They are now building at the rate of eight engines per month,

Union Works, South Boston. Seth Wilmarth, Proprietor. Lately enlarged, and can build two to three engines per month. Mr. Wilmarth has built many of the finest and quickest express engines on the Hudson River and other roads.

Globe Works, South Boston. John Souther and Co. Proprietors. Can build two or three engines per month.

Taunton Locomotive Manufacturing, Co. Taunton, Mass. W. W. Fairbanks, Agent. This establishment ranks among the finest and best arranged in New England or elsewhere. The Taunton company have done much to establish a good style of engines, and their engines have also been extremely successful in their performance. Mr. P. I. Perrin draughtman and Mr. B. F. Slater, the former foreman, have done much towards producing this result. The Taunton company can turn out three engines per month.

William Mason and Co. Taunton, Mass. These gentlemen have only lately commenced the manufacture of locomotives, but Mr. Mason's reputation has long been established as a skilful machinist in other departments.

Corliss, Nightingale & Co. of Providence, R. I. have built several Locomotives. They have endeavored to make some practical changes in the construction of engines, and have made many experiments with this view.

Rogers, Ketchum and Grosvenor of Paterson N. J. This establishment is among the oldest and largest in the United States. It may probably be said that Thomas Rogers, the managing partner, has done more than any builder in the country to improve the style and construction of American Locomotives. His engines are models of beauty, strength and speed. The whole number of hands employed is obout eight hundred, of which half, at least, are employed in the locomotive department. This establishment has been the *parent* of three other fine shops now doing a large business in the same town. Capacity of shop seven engines per month.

New Jersey Locomotive and Machine Co. Paterson, N. J. James Jackson, President; John Brandt, superintendent. This large establishment was originally started by Swinburne, Smith and Co. and was soon after incoporated under the management of William Swinburne, formerly the principal superintendent of Roger's shop. The present manager, John Brandt, organized and controlled for several years the motive power of the Erie Rail Road, and has established the success of the N. J. L. and M. Co. since his connection with them by building truly first class work. Capacity of shop two to three engines per month.

William Swinburne, Paterson N. J. Mr. Swinburne has a large and extremely convenient establishment, upon the line of the Union Rail Road. Capacity of shop, two to three engines per month.

Danforth, Cooke and Co. Paterson N. J. This is an *extension* of the firm and business of Charles Danforth and Co. cotton machinists and manufacturers. Mr. John Cooke, the manager of the locomotive shop was for several years the principal machinist in Rogers shop, and is familiar with the best class of work. This establishment is well stocked with excellent tools and has already finished some superb engines Capacity of shop two to three engines per month.

Richard Norris & Son, Philadelphia; successors to the firm of Norris, Brothers. Their establishment has been recently enlarged and is now doing a large business. Number of engines built by William Norris, Norris Brothers, and Richard Norris and Son, since their commencement, 650. Capacity of shop eight per month.

M. W. Baldwin, Philadelphia. Mr. Baldwin's shops are large and his reputation as a builder has been established for many years.

New Castle Manufacturing Company, New Castle, Del. Andrew C. Gray, President; William H. Dobbs, superintendent.

Ross Winans, Baltimore, Md. Mr. Winans has a large and fine establishment and has done a large business for many years. Mr. Winans deserves great credit for his exertions for the successful improvement of the coal engine. His engines are now burning Anthracite and Bituminous coal upon some of the largest roads in the country. Their success is fixed and certain and their use has become general.

A. W. Denmead & Son, Baltimore, Md.

Murray and Hazlehurst, Baltimore, Md.

Smith and Perkins, Alexandria, Virginia. This firm are extending their works to build three engines per month. Mr. Perkins was for many years the Master of machinery of the Baltimore and Ohio railroad, and built some of the most successful and economical coal engines upon that road. His "slip tire" and "heater" have been of great value wherever introduced. All the tools in this shop are of the best patterns, made at the North.

Wm. Ettenger & Co., Richmond, Va.

Schenectady Locomotive Works, Schenectady, N. Y. John Ellis, Agent; Walter McQueen, Superintendent. Mr. McQueen was the designer of the fine engines built by Wilmarth, and the Lowell Machine Shop, for the Hudson River railroad.

Cuyahoga Steam Furnace Company, Cleveland, Ohio. W. B. Castle, Secretary. E. T. Sterling, Superintendent. Mr. Rogers is the efficient foreman of this establishment, and we are informed that he has contributed much towards a good class of engines for the western market.

Harkness, Moore & Co., Cincinnati, Ohio.

Niles & Co., Cincinnati, Ohio.

H. and F. Blandy, Zanesville, Ohio.

The above establishments are all in operation, many of them having been at work for a number of years. Among the shops in progress are the following—

One in Jersey City, N. J. This is a large establishment, and is progressing quite rapidly. Mr. Breese, of the former firm of Breese and Elliot, is, we believe, engaged in it. Mr. Gould from the Hudson River railroad, is to have charge of the shop.

A large establishment is building at Trenton, N. J.

A. L. Grier, Esq., of Covington, Ky., is commencing the manufacture of locomotives.

C. Cooper and company, of Mt. Vernon, Ohio, are also entering upon this business.

Very many railroads have built engines for their

own use. The Boston and Providence railroad company have stocked their road with engines built at their own shops under the care of Mr. G. S. Griggs. The Western railroad of Massachusetts, have had some very fine express engines built at their Springfield shop by Mr. Wilson Eddy. The Reading road are having ten large coal-burning freight engines built this year at their shops in Reading, under the care of Mr. Jas. Milholland. The Baltimore and Ohio company are now having several engines built at their Mount Clare shop, under the direction of Mr. S. J. Hayes. Mr. Hayes is an experienced machinist and fully understands the value of the system of improvements which the Balt. and Ohio company have adopted for their motive power.

There are probably no less than one thousand locomotives built yearly by the shops now in operation, sufficient to stock from three to four thousand miles of road. From ten to fifteen thousand tons of cast iron, and the same amount of wrough. iron, and a large amount of other stock are used by these establishments for this yearly production.

The payments for labor alone must reach $2,000,000 yearly, while the finished products are valued at $7,800,000.

Galena and Chicago Union Railroad.

Earnings, Etc.—From the report of N. K. Towner, Esq., Secretary of the Operating Department of the Galena and Chicago Union Railroad, we are enabled to present our readers with a tabular statement of the earnings of the road for the fiscal year ending May 1, 1853:

	Passengers.	Freight, Mails, &c.	Total.
May	$15,408 03	$16,320 45	$31,728 48
June	17,313 46	25,911 66	43,225 12
July	13,980 95	20,973 68	34,954 63
August	16,603 67	23,555 18	40,158 85
September	20,766 73	35,264 95	56,031 68
October	22,908 17	35,903 83	58,712 00
November	15,137 34	31,664 60	49,802 04
December	12,434 08	26,271 27	38,705 35
January	11,010 29	21,662 02	32,672 31
Februaay	11,453 39	14,245 84	25,699 23
March	75,559 06	12,667 53	28,226 59
April	19,885 88	16,746 05	36,631 93
Totals	$192,461 05	281,087 16	473,548 21

The number of passengers carried on this road for the year, was 140,016. The lowest number in one month was 9,127, in February, and the highest 14,661, in October.

The expense of running the road was as follows:

Locomotive services	$15,459 33
Train "	7,124 47
Station "	42,504 69
Locomotive repairs	7,906 39
Car "	12,711 44
Track "	29,329 87
Building "	183 13
Fuel	42,490 10
Oil and Waste	5,758 52
Printing and stationery	1,052 36
Loss and damage	3,729 43
Taxes	9,119 25
Incidentals	10,387 41
Total	$187,396 39

Tae number of miles run by locomotives was 202,953. The earnings per mile run were 233.5, and the expenses per mile run, 92.3.

A comparison of earnings for the years 1853 and 1852, exhibits the following:

	1853.	1852.
Passengers	$192,461 05	$85,176 15
Mails	8,190 40	4,086 28
Freight	272,406 16	121,805 24
Totals	$473,057 61	211,067 67

This gives an increase:

In Passengers	$107,294 90
Mails	4,704 12
Freight	150,600 92
Tatal	$261,989 94

A comparison of the operatiug expenses of eight New England roads, viz.: Western, Boston and Worchester, Bvston and Maine, Fitchburghi Eastern, Boston and Lowell, Boston and Providence, and Old Colony—with the Galena and Chicago, gives the following result:

	Eight E. roads.	N. Gal: & Ch. R.
Comparative cost of maintenance of way, per mile run	1.45	14.3
Cost of repairs of engines and cars, per mile run	13.7	10.1
Cost of both, per mile run	28.2	24.4
Cost of carrying one passenger or one ton of freight one mile	1.4	1.2
Useful effect or number of passengers or tons carried per mile run	54.1	73.7
Cost of all the work done, per cent. of the gross receipts	50,5	39.5

Equipment of Locomotives.

It is an interesting inquiry to locomotive builders to know the increase of locomotive equipment upon trunk lines, consequent upon the opening of "feeders" or branch lines. A certain proportion of the business of all roads is *local*, and a large part of the business of most roads is *through*, or such as is thrown upon it from other lines which form its "feeders." Suppose there are four lines of railroad, each of one hundred miles, forming together one line from a large city to four hundred miles distant in the country. Suppose the business of each section of one hundred miles to be the same as the rest, and to require for its local accommodation two freight and two passenger trains daily each way, each train being supposed of a length equal to the capacity of the engine to draw it. Allowing the passenger engines to run one hundred miles, and the freight engines fifty miles, daily, there are required twelve engines, besides spare engines, on the division farthest from the city. The next division, having its own business in addition, and doing the through business of the "upper road," will require 24 engines, the next, 36 engines, and the road running into the city 48 engines. So we see that there is an arithmetical mean in the increase of locomotive power, for every mile run in approaching the principal receiving and delivering terminus. As our railroad returns do not distinguish between business from their own and from other roads, it is difficult to state the actual increase of motive power on old roads consequent upon the opening of new ones. Our builders can, however, readily understand that the opening of every important line at the South and West requires not only its own equipment, but throws an additional business, which must be met by additional equipment, on other roads connecting with it. Roads are not built now-a-days merely to accommodate an already existing business, but to create a business which shall extend over the entire country.

The concord Rail Road, in New Hampshire has about the proportion of one locomotivef for every three miles of its length. The Nashua and Lowell road, below it, has one to every two miles, while the Boston and Lowell road, the recipient of the business from most of the upper roads, has nearly one engine for every mile. The Cheshire road has one engine to every four miles, the Fitchburg road below it has nearly one engine for every two miles of its main line. The Western Railroad has 1 engine to every 2¾ miles. The Boston and Worcester road has one engine to every two miles. Of the Central line of New York, the Albany and Schenectady has one to every two miles, the Utica and Schenectady one to every three miles, the Syracuse and Utica one to every three miles, the Rochester and Syracuse one to every three and one sixth miles, and the Buffalo and Rochester one to every four and one half miles.

Comparison of Whole Chilled Driving Wheels with Chilled Tires.

Since the established success of the chilled tire upon several of the southern roads, there have been largely introduced whole chilled driving wheels, upon many roads at the north and elsewhere. The chilled wheel presents the same surface, and has the same characteristics of safety, durability and adhesion. But its application and maintenance are attended with far greater expense than with the removable tire, so much so, that it may be positively asserted that the removable tire is the only economical application of the chilled surface.

The chilled tire costs as much more at the outset as by the extra expense of fitting and securing the tire. But the wheel center never breaks, and is always ready to receive new tires when needed, so that the labor of boring a set of tires and securing them, on the one hand, is the only charge to be compared with the expense of taking out an entire set of drivers, losing the fitting of the wheels, crank pins, &c., on the other hand.

To renew the whole wheel is equivalent to throwing away one half of the material as good as new, and the entire loss of the labor expended in fitting the wheels, turning and fitting crank pins, replacing the wheels, re-setting valves, etc. It is well known that a set of crank pins are not worn out when the tires come to be renewed, especially where the pins have been case-hardened, or faced with steel. On the Baltimore engines, with short crank pins without brasses, the wear of the pins at one time equalled the wear of the tires. But the Baltimore and Ohio road adopted the plan of case-hardening the crank pins, and Winans welded a sheet of steel around the pins for his engines, and turned the journal therein. So that even in these circumstances of severe wear the crank pins of the Baltimore engines now outwear three sets of tires.

The security of the slip tire is complete, when it is held upon a conical surface by hook-headed bolts passed sideways through the rim, the body of the bolt lieing in the wheel center. This is the general method of applying the chilled tire, and is now in use on more than 800 wheels, and gives the most entire satisfaction. Its tendency is to work the tire, if anything, farther and farther upon the wheel by long use; if the taper of the rim of the wheel does not exceed one-half an inch in the whole diameter, for the width of the rim.

The great merits of the tire are its simplicity entire safety and expedition of renewal; by all of which it relieves the men engaged with the engine from a great deal of trouble, and saves the road a great deal of expense. The wheels are turned and

the tires are bored by gauges, so that tires can be bored at any time and kept on hand ready for immediate application.

The following comparative statements of expenses of renewing the wheel and the tire is made up from th estimates of the master of machinery of the Baltimore and Ohio road, and refers to a set of eight 43 inch wheels, as used on the engines of that road. This statement shows the comparative loss of time and expense by detaining the engine, as estimated by him.

EXPENSES FOR RENEWING EIGHT CHILLED WHEELS.

7752 lbs. castings	*a* 2½ cts.	$193.80
124 lbs. bands for hubs	3½ " ..	4.36
Boring out wheels		21.00
Banding hubs of wheels		12.00
320 lbs. of crank pins	*a* 3½ cts..	11.20
Turning ditto		13.75
Forging crank pins		12.00
Grinding crank pins into wheels		3.00
Chipping key ways and drawing on wheels		23.20
Painting wheels		8.00
Fitting in counterbalances		6.00
9 days labor, by two men, at $1.62, and four " " 1.00,		10.87
Detention of engine SIX DAYS, at $5		30.00
		$349.18

EXPENSE FOR RENEWING THE SAME SET FOR SLIP TIRES.

4360 lbs. of tires	at 2½ cts..	$109.00
60 " bolts	" 8 " ..	4.80
Boring out tires	" $2	16.00
Labor in putting on tires		6.00
Detention of engine *one day*		5.00
		140.80
To this add one-third expense of a set of crank pins, as being the proportion due to each renewal, say		15.00
		$155.80

Showing a saving of $193.88 for each renewal.

New Works.

The Practical Mechanics' Journal, June, 1853. (*Republication.*)

The Practical Draughtsman's Book of Industrial Design, and Machinists' and Engineers' Drawing Companion. Translated from the French of Armengaud, Brothers and Amouroux, by Wm. Johnson, Editor of the Practical Mechanics' Journal.

We have received the June numbers of the above works from the Publishers, Messrs. Stringer & Townsend, of this city. The former work, always progressive and practical, is useful to engineers, machinists, architects, builders, and to many other classes of scientific and practical men.

The latter work, the republication of the English translation of the Armengauds, is of very great value to students of mechanical drawing. It is a monthly quarto of sixteen pages, having 5 copper plates, each of a double page size, devoted to the construction of forms of the most useful description.

We can only give the authors' appreciation of the subject of Industrial Design, with the remark that they have treated it in a style which shows no loss of importance at their hands.

"Industrial Design is destined to become a universal language; for in our material age of rapid transition from abstract, to applied, science—in the midst of an extraordinary tendency towards the perfection of the means of conversion, or manufacturing production—it must soon pass current in every land. It is, indeed, the medium between thought and execution; by it alone can the genius of conception convey its meaning to the skill which executes—or suggestive ideas become living, practical realities. It is emphatically the exponent of the projected works of the Practical Engineer, the Manufacturer and the Builder; and by its aid only is the Inventor enabled to express his views before he attempts to realize them.

The work will be completed in 12 monthly parts at 37½ cents each.

A Veteran Engineer.

Mr. Leonard Crossman has been employed in running locomotives on the Boston and Providence railroad for *nineteen years.* The first trip with locomotives, from Boston to Dedham, was made in June, 1834, and Mr. C. commenced running in the August following. His first engine was the old "Whistler," an imported engine of Stephenson's construction. With this and with the "Philadelphia," a Norris engine, he for a long time ran the steamboat train over the Providence road. During this long service, Mr. Crossman has never met with any accident resulting in the death of a passenger. We rode up to Boston with him a few days since, and were much interested in his recital of some of his early reminiscences of locomotive engineering. At one time he was running a freight train down "Sharon Hill," and in attempting to "brake up" the brake fell upon the track. There were then no brakes upon any of the freight cars, and he could only reverse his engine to stop the train from getting under too much headway. He attempted this, when the reversing rod broke loose, and the engine and train rushed headlong down the grade. He stuck at his post, and after running a few miles and approaching a slight rise in the opposite direction, the train stopped.

The old "Whistler" was, as late as last January, in the company's old engine house at "India point," in Providence. She was then capable of doing quite efficient service.

Those who are now so deeply interested in railway progress may thus see, in our midst, the oldest engine and the oldest engineer in the country, with perhaps a rare exception; and can contemplate more fully what that progress has been. We will say, moreover, that however much engines may have been improved in this long time, it is doubtful if the engineers of the present day are more successful than their worthy fellow craftsman who has performed his duty through every year of the history of the railway in this country.

The Road to Illinoistown Blocked.

On yesterday afternoon, according to appointment, a Committee of the Directory of the Belleville and Illinoistown Railroad, consisting of Messrs. Morrison, Abend, Roman, Morris, Seargent, and Hughes, had a conference with the Common Council of this city, upon the project of extending that road to Alton under the famous Seventeenth section of their charter. Col. Morrison addressed the Council at length upon the project, setting forth its present financial condition the surveys which have been completed, and the connection proposed to be made with the Central Road in the neighborhood of Cairo. His remarks, however, were very general in their nature, and did not extend to the *law* sanctioning the enterprise. That point was not discussed at all, and was left for the Council and the citizens to examine for themselves. Throughout, Col. Morrison was listened to with very respectful attention, though, as we have repeatedly said the advocates of the proposed road in this city, do not number a corporal's guard, and not the slightest favor was exhibited for it.

At the conclusion of his remarks Alderman Adam offered a series of resolutions upon the subject, which were adopted by the Board unanimously. They not only deny the legal power of the Belleville and Illinoistown Railroad Company to construct the road to this city, but pronounce it as an enterprise unecessary, adverse to the interests of this place, and at variance with the long settled policy of the State. In their view, the communication with St. Louis by packet boat is as speedy, as easy and as intimate as the demands of travellers and the wants of commerce require. Immediately after the adoption of the resolutions the Board adjourned. So the question is definitely settled as far as the city of Alton is concerned, that the projected railroad from Illinoistown to this place, under the "Spider provision" of the Belleville charter, shall not be constructed if courts of law have the power to stop it. What action the Directory of that road will take in this state of the case remains to be seen.—*Alton Telegraph.*

Railroad Items.

The Mayor of Baltimore has communicated to the city Council his official sanction of the ordinance to indorse the bonds of the Connellsville railroad company to the amount of a million of dollars.

The Montgomery, Ala., Journal of the 22d inst., states that the city Council has subscribed $500,000 to the capital stock of the Alabama and Florida railroad company. The law was passed, conditioned to be ratified by a vote of the citizens to be held this day, 27th inst. This amount, if confirmed, enables the company to start with a subscribed capital of $1,000,000.

The arrangement for a consolidation of the Toledo, Norwalk and Cleveland road and the Junction road, have been completed and adopted by the stockholders. The combined road, we believe, is to be called the Toledo and Cleveland road.

The directors of the Somerset and Kennebec railroad company at a meeting held at Waterville, Friday, June 10th, completed the organization of the company by making choice of Joseph Eaton, of Winslow, for President, and Increase S. Johnson, of Waterville, for Treasurer.

It is understood that Mr. Eaton accepts the management on the condition that subscription to the amount of 50,000 dollars be obtained to the stock in addition to the $300,000 already obtained.

Notice of the opening of books of subscription to the capital stock of the Atlantic and Ohio railroad company is given in the Warren Transcript. That paper states that papers have been filed at Columbus for the organization of this company, with a capital of $6,000,000, and that the project has been planned by some of the most wealthy and energetic capitalists in Ohio.

Hon. John A. Dix, Sub-Treasurer of this city, it is stated, has been elected President of the Davenport, Iowa, railroad, known as the Mississippi and Missouri company, connecting the Chicago and Rock Island railroad, at Davenport, with the Mississippi River. Hon. A. C. Flagg is the Treasurer.

Mr. Jenne, Chief Engineer of the Black River & Utica road—states the Wheeling Times—says that the stock has been subscribed to the amount of $100,000, and a company formed for the manufacture of railroad iron in this city. The works will go into operation as soon as the machinery, a part of which is already made, can be finished. The company has made contracts for all the iron it can make in one year.

A new railroad company has been organized under the name of the Peru and Chicago railroad, with Judge Mitchell, of the Columbus, Piqua and Indiana railroad, as President. The route of the road is from Peru, Indiana, to Chicago. It is proposed to connect with the Columbus, Piqua and Indiana road by running a road in a direct line

from Union, the western terminus of this road, to Peru.

The vacancy of the presidency in the Southern Michigan road, caused by the death of Mr. Doxtater, has been filled by the election of Mr. J. B. Jervis, who was president previously to the election of Mr. Doxtater.

On the organization of the North Missouri railroad company, John O'Fallow, Esq., was elected president. St. Louis county has subscribed $500,000 toward the road, and the total means at the command of the company amounts to $963,000.

Several of the directors of the Syracuse and Binghampton railroad, with the president, Hon. Henry Stevens, and Mr. Gilbert, chief engineer, were in Binghampton last week, for the purpose of considering and determining the location of the depot there, and the question of crossing the track of the Erie road.

The village of Rome, Oneida Co., takes $150,000 worth of stock in the Ogdensburg, Clayton, and Rome railroad. The vote was unanimous.

Mr. Horatio Newhall, a large stockholder in the Galena and Chicago Union railroad company has, applied to Hon. J. M. Wilson Judge of the Cook Co. county court of Common Pleas for an injunction to restrain the company from building the proposed western Branch of their road. The grounds upon which the injunction is asked, are, that the building of the road is not warranted by the charter of the company, and that its construction would prove ruinous to the stockholders. The application is to be heard on Thursday, the 30th inst.

The contractors of the Milwaukee and Watertown railroad are Messrs. Bishop & Co., of Bridgeport, Ct., who are to build the road by July 1st, 1854, for $570,000, one quarter in stock.

The LaCrosse and Milwaukee railroad is now being constructed to Portage city, and the credit of Milwaukee is given to the amount of $200,000. From Milwaukee to Portage city, on the Milwaukee river, is 102 miles; and the road to be completed by January 1, 1855. From Portage to LaCrosse on the Mississippi, the road is to be pushed forward as rapidly as possible.

The Grand Jury of Alleghany county Pa., have recommended a subscription of $500,000 to the Pittsburg and Steubenville, $150,000 to the Cleveland and Pittsburg, and $159,000 to the Chartier's Valley railroad. The whole debt created by the county of Alleghany, city of Pittsburg, and Alleghany city, and the debt recommended to be created foots up $5,000,000.

European and North American Railroad.

A. C. Morton, Esq., Engineer-in-Chief of the European and North American railroad company, arrived in town yesterday, and proceeds to Augusta to-day with a party of engineers, to make the location of the line from Augusta to Bangor, via China and Unity. It is now ascertained that from Portland to Bangor, by the way of Augusta and Unity, the distance is as follows:

	Miles.
Portland to Augusta	60
Augusta to Unity	30
Unity to Bangor	32
	122

From Portland to Bangor, via Waterville and Newport, is as follows:

	Miles.
Portland to Danville Junction	24.42
Danville to Waterville	55.00
Waterville to Bangor	55.00
	137.42

From Waterville to Bangor via Unity, according to the recent survey of Mr. Shearer, the distance is only 49,70 miles, or a saving of over 5 miles over the Newport line.

We understand that it is now so arranged that the European and North American Railroad Company are prepared to build from Bangor to Unity over the short route to Waterville, with a line to Augusta, so that from Portland to Bangor the line by way of Waterville will only be 132.12 miles, and by the way of Augusta 122 miles,—making, by this arrangement, a saving of only 10 miles, by means of adopting the Kennebec and Portland railroad for the Grand Trunk from Portland to Halifax, over that obtained by adopting the Androscoggin and Kennebec road.—*Portland Advertiser.*

Texas.

Vicksburg and Shreveport Railroad.—Mr. Coleman, the President of this important enterprise, is now in the city, raising subscriptions to forward the work. We trust he will meet with the success due to so valuable a work. Louisiana is fortunate in obtaining for the direction of her railroads such men as have charge of her great improvements. It would be difficult anywhere to find gentlemen posessing, in a higher degree, the qualifications for their posts than Messrs. James Robb, Judge Overton and Mr. Coleman. We are pleased, to perceive that these great companies act in harmony, concert, and with the best under standing, and that the only rivalry which exists between them is the honorable one which shall get ahead fastest.

The Opelousas Road, we understand, is determined to surprise us with a ride of 25 miles on the 4th of July next. In the meantime, the Great Northern is pushing its way towards the Mississipi with giant strides. There are, we learn, fifteen hundred laborers at work on the line between Pass Manchac and Mississippi.

The New Orleans and Mobile road, along the sea coast, has scarcely been organized when its stock is all taken up, and none can be found now for love or money. This road is bound to go ahead.—*San Antonio Ledger.*

Central Railroad of New Jersey--Correction.

To the Editor of the Am. R. R. Journal.

In the report of the board of directors of the Central railroad company, published in the Railroad Journal of the 21st May, 1853, the actual cost of the "extension" is compared with the cash estimate made by the engineer of the company, founded on his survey, and location of said extension.

This comparison shows the cost to have exceeded the estimate, but the work having been paid for in the bonds of the railroad company, the cost of this part of the road was thereby increased, and it should have been stated in justice to the engineer, that had the railroad company been in a condition to have made the payments for the "extension" in cash, the work would have been completed within the engineers estimate.

This statement is made in justice to the engineer, by order of the board,

John T. Johnson, pres't.

☞ It is stated in relation to the law just passed for the establishment of electrical telegraphic communication between France and Algeria, on the northern coast of Africa, that by agreement with the government of Sardinia, the wire is to cross the Mediterranean in three leaps. The first will be from Spezzia, on the Italian coast near Genoa, to Corsica; the second from Corsica to Sardinia; and the third from Sardinia to Bona, on the coast of Africa, thence along the shore to Algiers and Oran. The submarine telegraph cable connecting Sardinia with Bona will be of one piece, two hundred kilometres—124¼ miles—in length; and there will be on the whole line a total of four hundred and fifty kilometres of submarine wire.

Brunswick and Florida Railroad.

We learn that Hon. S. Foote, who recently visited England for that purpose, has disposed of the Brunswick and Florida railroad companies sterling bonds, in payment for the iron for the road. Shipment of rails from Liverpool to Brunswick will commence immediately. The iron for some ten miles of this road arrived some weeks since, and is now being laid down.

Correction.

In our article on the cost of transportation of freight, in our number of June 25, the expense set down to the Erie road for "incidental charges, repairs of machinery, watchmen, etc." should have been $0,025, instead of $0,250. The average for the Central line, for "repairs of fre't cars" should be $8.11, instead of $8.18. This correction was crowded out last week.

New Screw Cutter.

Mr. D. M. Robinson, of Piermont, N. Y., foreman in the machine shop of the Erie railroad, has lately invented and constructed a machine for cutting screws on iron bolts, which has two peculiarities: one is, that the driving power is applied to a pulley, giving the pulley and the cutting die one uniform rotary motion, and thus avoiding the reverse motion of the common machines, and thus saving at least one-third of the power and time of bolt-cutting. Another advantage is, that the cutting edge of the cutting die is perpendicular to and parallel with the centre of the bolt, when fitted to its place to be cut. The machine promises to be of much utility.

Cast Iron Welding.

In the foundry connected with the railroad repair shop at Piermont, N. Y., Harvey Rice, Esq., Superintendent, the experiment has been successfully tried of casting fused iron upon unmelted iron. A flange had been broken from the outer surface of a locomotive cylinder. Mr. R. E. Falkenberry, foreman of casting, so adjusted the moulding-sand to the broken flange and to the cylinder, and so applied the fused iron as to restore the part wanting. The minutiæ of the process he will explain to those who inquire. The new part added to the flange is so skilfully welded on, that the precise line where the new and old parts unite cannot be detected after the parts are polished.—*Plough, Loom and Anvil.*

Removal of Red River Raft.

Mr. Sweet, of Milwaukee, has been on a visit to Red River Raft, for the purpose of examining the work to be done in the removal of it, and to decide on a proposition made to him by the contractor of the work, Mr. Mapes, of Illinois, to become a partner in the contract. The Shreveport Gazette learns that Mr. Sweet was satisfied that the work can be easily done, and expected to join in the contract. The Gazette says:

A boat will be constructed with circular saws running out in front and at the sides, to go by steam, which will saw the logs in the water. Operations will be commenced between the middle and last of October. It is believed that one of the government snag boats built and being built on the Ohio, can be brought over here to operate about and below the raft.

A Six Foot Track.

We learn from the *Miltonian* that the Sunbury and Erie railroad is to be graded for a six foot track. Orders to that effect have been given to those engaged in getting out the ties, and the contractors are to grade the road one foot wider than at first determined upon. This important improvement is steadily progressing towards an early completion.

Bar iron--Important Discovery.

Messrs. Davis & Co. Cincinnati, have erected a furnace, forge and rolling mill all in the same room, and are now making the best quality of bar iron directly from the ore, and with common bituminous coal. The arrangements appears to be ample and excellent, and the price of iron must be materially reduced by its adoption. The metal as it is melted in the furnace is drawn off in the liquid state to the puddling oven, where it is balled and put under the strip hammer. After being sufficiently hammered into blooms it is again hated and put through the rolling mill. All these operations are cheapened by the new arrangement, so that the cost is but trifling compared with the old process. Mr. CIST, of Cincinnati, speaks of its advantages as follows:

The great advantageous claimed in this process are—the cheapness with which the iron is made, the cost estimated at but $23, where the ore and coal is near at hand—the use exclusively of the common bituminous coal—the uniform good quality of the iron—and, compared with a blast furnace, costing, say $30,000, which usually produces nine tuns pig iron, worth say $30 per tun, the daily products would be $270, the same investment, say $30,000, will build twenty of these furnaces, allowing $15,000 for machinery, houses, &c., which twenty furnaces, at the poorest yield ever yet made, will produce 40 tons blooms daily, worth, at the least, $60 per tun when pig iron is worth $30, making $2,400 daily product from a $30,000 investment, against $270 product at a blast furnace, and the comparative cost of labor, nothing, compared with increased product. The works are all continued in a building 30 by 50 feet, and the estimated room reqeired for twenty furnaces and necessary machinery, is a single shed 140 feet long and fifty wide.

The Statistics of Buffalo.

The directory of the City of Buffalo for the year 1853 has been recently issued, from which we gather the following statistics of that flourishing city: There are eleven banks there, with a capital of $1,400,000, with six railroads having their terminus in that city, and three others in various stages of progress. The number of churches is 42. There are eight daily newspapers, six tri-weekly, and 11 weekly published in Buffalo. The directory contains about 14,000 names. The population of the city at the present time is probably all of 60,000.

New Haven Railroad.

The New Haven railroad company paid $5,000 to Mrs. M. W. Dimock, of Mansfield, whose husband was killed at Norwalk. This was the sum claimed by her, and it was promptly paid.

Discovery of a Deposit of Hydraulic Lime.

We are informed that the Engineers of the Ills. Central railroad have discovered within a few miles of this city, a large, and apparently inexhaustible deposit of Hydraulic Lime, lying contiguous to the Mississippi. Specimens of the rock are now being tested to ascertain its value.—*Dubuque Herald.*

WEST POINT.—The Board of Visitors of this institution have recommended several important changes. Among them are the erection of a new building for cavalry exercise; the enlargement of the Cadet's Hospital, additional quarters for officese, and increase in the number of cadets, so as to give two additional to each State, corresponding with the numbers of Senators; an extension of the period of instruction to five years; and and increase of the pay of the cadets from $24 to $28 per month; the equalization of the pay of all the professors, and also the pay of their assistants, with some others of less moment.

☞ At a meeting of the stockholders of the Chattanooga, Harrison, Georgetown and Charlestown Railroad company, held at Chattanooga, on the 28th inst., V. K. Stephenson, Esq., was elected President, and Ker Boyce, James Williams Robert Cravens and James A. Whiteside was elected Directors of the company.

Girard Railroad Meeting.

In our last we noticed the fact that a meeting of our citizens was being held at the Alambra; but that no action had been taken up to the hour of our going to press,

The following resolution and provisions were subsequently offered and unanimously adopted:

Resolved, That the views and wishes of the citizens of Mobile, in regard to subscribing to stock to the amount of $1000,000 to the Girard Railroad Company, as expressed at a public meeting held at the Alhambra on the 11th May last—remain unchanged, and it is deemed important that the corporate authorities of this city take immediate action to carry those views and wishes into effect.

1st. Provided that the locatiou of the road near and at the Mobile terminus, shall be under the controal and direction of the city of Mobile.

2d. Provided that the authorities of the city are assured, by the most satisfactory evidence, of the ability of the company to put the whole road in complete running order within three years.

3d. Provided that branches from Montgomery and Selma, and other points in the State of Alabama, should be permitted to join the road at any time and place they may select, and that no discriminating charges shall be exacted at any time on any part of the road.—*Mobile News.*

Portland and Montreal Railroad.

We learn thai only ten miles of track upon this road are to be iaid, and that the work is now proceeding at the rate of nearly one mile per day. The locomotive will run over the whole road about the first of the coming month, and in season for the pleasure travel, which bids fair to be very large.

Kentucky.

Covington and Lexington Railroad.—The completion of Grant's Tunnel, ten miles from Covington, on the Covington and Lexington railroad, was made the occasion of an excursion on that road on Saturday last.—Upwards of 1000 citizens of Covington and Cincinnati participated. The Tunnel, which was finished on the Thursday previous, was lighted with candles about six feet apart the entire distance through, (2,167 feet) and presented a very beautiful appearance. The first tunnel (Anderson's) is 763 feet long and about 100 feet below the surface of the earth, and Grant's tunnell about 300 feet below. The track is laid about half a mile beyond the tunnel, and the company expect to have the track laid as far as Falmouth by the 15th of August, when a train of passenger cars will be put on.

Ohio.

CENTRAIL RAILROAD.—The *Zanesville Gazette*, a few days since, contsined an article on the coast, &c, of the important structure, that is of interest to the stockholders and to the public generally. The road from Columbus to Zanesville is 59 miles long. The construction account $565,585 55. The superstructure cost $3000, 849 11. The right of way, $23,220 93. The discount on bonds, premium and exchange, taxes, salaries, repairs, &c., to January 18th, '53, amounted to $161,975 41. The receipts of the road were $51,447 03.

The total cost of the road, including machinery, grounds for depots, &c., is $1,192,826,

Survey Commenced.

A full corps of Engineers have commenced the survey of the line of the Independence railroad—from Williamsport, Va., to the N. W. Va. road.—Mr. Joseph Dudley, an experienced and skillful man, late Engineer of the Vermont Central railroad, is the Chief Engineer.—*Marietta Int.*

The Huntsville Advocate says, the project of a Railroad from some point on the Selam road near or above Montevallo to the Mobile and Ohio Railroad nearly West of Demopolis and through Tuscaloosa, is exciting a lively interest in that region. It is an important and valuable and will and be a profitable connection.

Railroad Letting.

KENOSHA AND BELOIT RAILROAD.

ON and after the first day of August next, and until the 15th of August, inclusive, proposals will be received, under seal, at the Office of the Kenosha and Beloit Railroad company, in Kenosha, for the construction of the entire road from Kenosha to the Rock River Union Valley Railroad, a distance of about 50 miles.

The proposals may be made for the grading, masonry, ties, and entire construction in a single contract—or for the same and all items separately. and in independent contracts by different individuals. They will likewise be received for the above in parts. The work will besides be divided into sections of moderate length, and proposals, as above, for a single section or any number of sections will be received.

Profiles and specifications may be inspected at the Engineer's Office in Kenosha, on and between the days above specified, and forms of proposals will be supplied to all who desire to take contracts.

ALEX. C. TWINING, Engineer.

Engineer's Office, Kenosha, June 20th.

To Railroad Contractors.

PEORIA AND OQUAWKA RAILROAD.

PROPOSALS will be received by the undersigned, at their office on Main street, opposite the Court House, until the 15th of July next, for the grubbing, clearing, grading and trestlework of that portion of the above road extending from the city of Peoria to the junction with the Chicago and Mississippi railroad, a distance of fifty miles. The line will be divided into two mile sections, but contractors can bid for as many as they please.

Profiles, Specifications, etc., can be seen at the office of the Chief Engineer, Richard P. Morgan, Esq.

CRUGER, SECOR & Co.

To Contractors.

SEALED PROPOSALS will be received at the Engineer's Office of the Pittsburg, Maysville, and Cincinnati Railroad, in M'Connellsville, until the 20th July, for the Graduation and Masonry of the line of road (about 35 sections) between the Muskingum river and the Central Ohio Railroad.

Bids enclosing proper testimonials, will be received for the whole or any number of the above sections.

Plans and specifications will be ready for examination after the 10th of July.

The division between the Muskingum and Hocking rivers will be offered for contract, as soon as the location is completed. ROB'T M'LEOD,

Chief Engineer.

M'CONNELLSVILLE, June 4th, 1853.

"Gardner's Rock Drill."

DESIGNED for Tunnelling, Quarry use, and Rock Excavations of all descriptions, by the use of which a saving of 50 to 75 per cent is made.

Applications for Territorial Rights and Machines must be made to the Patentee. G. ARTHUR GARDNER,

Trinity Buildings, Broadway,

June 9, 1853. New York.

Notice to Contractors.

FREMONT AND INDIANA RAILROAD.

SEALED PROPOSALS will be received at the Engineer's Office, in Fremont, until the 20th day of July next, at noon, for the Grubbing Clearing, Grading, Masonry, Bridging and Cross Ties for said road, from Fremont to Lima; sixty-six miles.

The line will be divided into sections of about one mile each, and bids will be received for one or more, or the whole.

Propositions for completing the entire line ready for business, are also invited.

The Company reserve the right to reject any and all proposals that are not considered satisfactory.

This road, running through a populous and healthy country, where supplies are cheap and abundant, offers unusual inducements to Contractors.

Maps, Profiles, Plans and Specifications, will be ready for examination on and after the 15th day of July.

A. BROOKS, *Chief Engineer.*

Fremont, O., June 23rd, 1853.

AMOSLEAG MANF'G CO.

MANUFACTURERS of LOCOMOTIVE and STATIONARY STEAM ENGINES, Boilers, Cotton and Woolen Machinery, Tools, Turbine Wheels, Mill Work and Castings of every description.

MANCHESTER, N. H.

O. W. BAYLEY, *Agent*, Manchester, N. H.

WM. AMORY, *Treasurer*, 65 State st., Boston, Mass.

1y jy 6.

Lawrence Scientific School. Harvard University.

CAMBRIDGE, MASS.

THE next term of this Institution will open on the first day of September, 1853, and continue 20 weeks.

Instruction by recitations, lectures and practical exercises, according to the nature of the study, will be given in—

Astronomy	by Messrs.	Bond.
Botany	" Prof.	Gray.
Chemistry, Analytical and Practical	" "	Horsford.
Comparative Anatomy and Physiology	" "	Wyman.
Engineering	" "	Eustis.
Mathematics	" "	Pierce.
Mineralogy	" "	Cooke.
Physics	" "	Lovering.
Zoology and Geology	" "	Agassiz.

For further information concerning the School, application may be made to Prof. E. N. Horsford, Dean of the Faculty.

Cambridge, July 15, 1853.

Notice to Contractors.

PROPOSALS for the grading, bridging and masonry of the Western division of the Covington and Ohio Railroad, will be received at the Office of the Engineer at Guyandotte, Cabell County, Virginia, between the 20th and 30th of June next.

They will embrace about forty-six mile sections, bridges over Twelve Pole, Guyandotte and Mud Rivers, and a tunnel of 1500 or 1600 feet in length, at the bend of Mud River.

Also, between the 1st. and 15th. of July next, proposals will be received at Covington, Virginia, for the grading, bridging and masonry of that portion of the Eastern division, lying between the town of Covington and Hayne's Farm, on Jackson's river—a distance of 10 or 11 miles of very heavy work' including much heavy retaining wall, two large bridges over Jackson's River, and probably 2 tunnels.

The successful bids will be declared as soon as practicable after 15th July.

By order of the Board of Public Works.

CHARLES B. SHAW,

Chief Engineer Covington & Ohio R. R. Co.

Lewisburg, Va., May 24, 1853.

Krupp's BEST CAST STEEL.

Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATERS and other Cast-Steel Rollers, of any dimensions, not exceeding six feet long by eighteen inches diameter.
Piston Rods and Shafts for Steam Engines.
Railway and other Axles, Cranks, Springs and Tyres.
Cannon, Rifle and Gun Barrels.
Mint and other Rolling Mills
—Particularly applicable for—
Engravers' Transfer Rollers and Plates; Die-sinkers', Tool-makers, Reed and Lace Makers' use; Dredging Chains, etc., etc.
Manufactured at Essen, in Rhenish Prussia, by FRIED. KRUPP

Agents, THOMAS PROSSER & SON, 28 Platt street, New York

ap30

Notice to Contractors.

MARIETTA AND CINCINNATI RAILROAD.

Lettings of Eastern and Western Divisions.

PROPOSALS will be received up to the 12th of July, at the Engineer's office in Marietta, for the graduation, Masonry, etc., of the seventh and 8th Divisions of this road, extending from Marietta to Zane's Island, opposite the city of Wheeling.

The line will be divided into about one mile sections, on some of which there will be heavy masonry, and other work worthy the notice of the most responsible contractors.

Plans, Profiles and Specifications will be ready for examination at Marietta, and on the line of the 8th Division, near Wheeling, on and after July the 4th.

Proposals will be received at the same time and place for the construction of about 20 miles, being that portion of the road between Blanchester and Milford, 14 miles out of Cincinnati, on the Little Miami Railroad.

Plans, Profiles and Specifications for this division will be ready for examination at the Engineer's Office, in the Manchester Building, Third Street, Cincinnati, on and after the first day of July.

The line of the road from Marietta and Belpre to Blanchester, being already under contract, and well advanced in construction; the work now offered forms the only remaing link to complete the connexion from Cincinnati to Philadelphia, by way of the Pennsylvania railroad.

Recent subscriptions of $1,150,000 by the Pennsylvania railroad Co., the city of Wheeling and individuals, to the capital stock of the company, will ensure the prompt completion of this great work from Cincinnati to Wheeling.

WM. P. CUTLER, President.

A. KENNEDY, Engineer.

Marietta, May 30. 1853.

CENTRAL RAILROAD CO. OF NEW JERSEY.

$950,000 of Stock.

BY ORDER of the Board of Directors, the Finance Committee of the Central Railroad Co. of New Jersey will open Books of Subscription for the Unissued Stock of the Company, amounting to $950,000, at the BANK of AMERICA, in the City of New York, on the 27th June instant, and keep the same open one week, unless the whole amount shall be sooner subscribed. This Stock comprises all that the Company are entitled to issue, and the money received is to be applied to the construction of a second track, Improvements at Elizabethport, and other preparations imperatively demanded by the connections to be opened in another year. This mode of distribution has been adopted, in preference to a pro rata allotment, to enlarge the number of stockholders, and facilitate the acquisition of stock by those now desirous but unable to procure it.

The Ferry, 12 miles, from New York to Elizabethport, and the Railroad, 63 miles, from Elizabethport to Easton, Pa., have been operated thro' the entire distance for nearly a year, and both are fully equipped for the present business. Passengers preferring the land route can go from New York by the way of Newark to Elizabethtown and there intersect the trains.

From the terminus at Easton, the Lehigh Valley Railroad is in active course of construction to Mauch Chunk, 46 miles, and will be opened in July, 1854, connecting New York, winter and summer, with the Lehigh coal fields, by a route of only 125 miles; the Lehigh road having only descending or level grades, and the Central Road no grade over 21 feet to the mile. At Tamaqua the Lehigh road connects with the Catawissa road, now constructing, and to be completed in May, 1854. This connects with the Sunbury and Erie road, now under contract and to be completed in two years. Thus the year 1855 will see a new route of favorable grades and curves only 462 miles in length, opening from New York to Erie on Lake Erie.

A direct and favorable connection with Pittsburg and the Pennsylvania Central Railroad, can also be made through existing roads and charters.

From New Hampton, a point on the Central Railroad of New Jersey, 59 miles from New York, the Warren Branch road in connection with the Delaware, Lackawanna and Western road and the Oswego, Syracuse and Binghamton road, will bring the Lackawanna coal region within 133 miles of New York, with grades of only 21 feet to the mile (except for a few miles in leaving the coal basis at Scranton), and give an unbroken line of six feet gauge, 310 miles in length, from New York to Oswego on Lake Ontario. Of this distance, 156 miles are finished and in operation; 80 miles are under construction and to be opened this Fall; the remaining 74 miles are located, contracted, and to be completed in the Fall of 1854.

It may be interesting to state that the Central Railroad of New Jersey, from its local business, without any of the anticipated connections, has been enabled to pay seven per cent on the cost of the several sections as they have been opened, and that the entire road, with its present local business, is now paying dividends at that rate.

At the close of the fiscal year, April 1, 1853, the financial condition of the company was as follows:

Capital stock	$1,034,700 00
Mortgage bonds, 7 per cent	1,500,000 00
Other bonds, 6 per cent	113,000 00
Bills payable and balance due	249,022 04
Balance of earnings over dividend	1,006 85
	$2,897,728 89

This was represented by the following property:

Railroad, average $37,800 per mile	$2,379,886 64
Ferry interest and boats	140,900 00
Station houses, shops, etc.	78,000 00
Land at Elizabethport	55,016 77
Equipment	218,504 64
Materials, wood, coal, cash, etc	25,420 84
	$2,897,728 89

Full statements of the condition of the company can be obtained at the office, 5 Wall street, where those desirous to examine the road with reference to investment can procure tickets for the trip.

The Finance Committee call the attention of capitalists with the greatest confidence to the present position and future prospects of the road, believing that no road in this vicinity presents greater inducements for investment. They reserve the right to reject or reduce subscriptions, if the whole amount subscribed should exeed the amount to be issued.

Ten per cent will be required to be paid on allotment of the stock, and the remainder in instalments of ten per cent every sixty days on notice, as required. Interest at the rate of seven per cent will be allowed till the instalments have all been called. If the dividends on the full stock are at a higher rate, the difference will be made good to thh scrip Stockholders when their stock is filled up.

Dated New York, June 17, 1853.

JOHN T. JOHNSTON,
JOHN C. GREEN,
WILLIAM E. DODGE,
WILLIAM S. WETMORE,
} Finance Committee.